Journal of Corporate Finance 87 (2024) 102626

Contents lists available at ScienceDirect

Journal of Corporate Finance

journal homepage: www.elsevier.com/locate/jcorpfin

Do CFO career concerns matter? Evidence from IPO financial reporting outcomes☆

Dimitrios Gounopoulos [a], Georgios Loukopoulos [b], Panagiotis Loukopoulos [c,*], Yu Zhang [d]

[a] University of Bath, School of Management, UK
[b] Sussex Business School, University of Sussex, UK
[c] Strathclyde Business School, University of Strathclyde, UK
[d] University College Dublin, Ireland

ARTICLE INFO

Editor: H Almeida

JEL classification:
M40
M41
M52

Keywords:
Chief financial officer
Career concerns
Career horizon
IPOs
Earnings quality
Earnings management
Labor outcomes

ABSTRACT

We find that Chief Financial Officers (CFOs) with greater career concerns are more diligent and conservative in preparing financial statements during an Initial Public Offering (IPO). Additional tests exploiting exogenous variation in managerial career concerns suggest that our documented relations are not sensitive to unobservable omitted factors. Furthermore, we document that CFOs who are relatively more concerned about their future job prospects are more sensitive when there is greater scrutiny or higher litigation risk and are less likely to succumb to undue pressures from influential shareholders to exaggerate the firm's prospects. Finally, we show that CFOs with longer decision horizons prefer more transparency during the IPO process, which in turn, translates to superior post-IPO performance and better labor market outcomes than their counterparts. Overall, our findings indicate that career concerns play a disciplining role during IPOs and that CFOs exploit these high-visibility events to accelerate their career trajectory.

1. Introduction

The initial public offering (IPO) constitutes the most significant capital raising event in a firm's life cycle, while its success plays a

☆ We are grateful to Reena Aggarwal, Carol Alexander, Thomas Chemmanur, Mark Clatworthy, Douglas Cumming, Fabrizio Di Meo, Simone Giansante, Cristina Grande Herera, Ranko Jelic, Andreas Kaeck, Yuanto Kusnadi, Zicheng Lei (FMA Discussant), Suman Lodh, Enrico Onali, Georgios Panos, Anita Pennathur, Klaus Shaeck, Richard Slack, Hanwen Sun, Yannis Tsalavoutas, and Raman Uppal for his helpful comments and suggestions. We would also like to thank the seminar participants from Financial Management Association (FMA, 2021), European Accounting Association (EAA, 2021), American Accounting Association (2021 Southwest Virtual Region Meeting), British Accounting and Finance Association (BAFA, 2021), Adam Smith Business School (University of Glasgow), Strathclyde Business School, Sussex University, Open University Business School, University of Bath, Kingston University, and University of Southampton as well as participants at the Young Finance Scholars Conference (YFS, 2019). We would like to acknowledge that an earlier version of this paper was circulated under the title "CFO Career Prospects and Financial Reporting Decisions".

* Corresponding author.
E-mail addresses: d.gounopoulos@bath.ac.uk (D. Gounopoulos), g.loukopoulos@sussex.ac.uk (G. Loukopoulos), panagiotis.loukopoulos@strath.ac.uk (P. Loukopoulos), yu.zhang2753@ucd.ie (Y. Zhang).

https://doi.org/10.1016/j.jcorpfin.2024.102626
Received 10 December 2023; Received in revised form 30 April 2024; Accepted 8 July 2024
Available online 18 July 2024

crucial role in fostering entrepreneurial activities and stimulating the aggregate economy (Butler et al., 2019; Duong et al., 2022). However, due to their short operating history and limited track records, IPO firms are subject to severe uncertainty about their capacity to operate in the public domain and substantial information asymmetry between issuers and prospective investors (Cohen and Dean, 2005; Field and Lowry, 2022). As such, newly public firms are vulnerable to market speculation about their true value (Lowry et al., 2017; Qian et al., 2024), suggesting that their success critically depends on the information conditions characterizing the offering and the financial reporting incentives of important IPO players.

Consistent with the above argument, several studies show that the quality of financial reporting and disclosure choices of IPO issuers affect both their short-term valuation (e.g., Brown et al., 2022; Loughran and McDonald, 2013) and, most importantly, their long-term viability (e.g., Anagnostopoulou et al., 2021; Liu and Wu, 2020; Sletten et al., 2018; Teoh et al., 1998a), whereas the reporting incentives of investment bankers (Lee and Masulis, 2011), venture capitalists (Wongsunwai, 2013), or regulators (Gounopoulos et al., 2022) play a prominent role in this context. Although this line of research considers various third-party intermediaries, it overlooks the role of top executives, thereby yielding an incomplete portrayal of how the behavior of key IPO actors might affect the transparency and success of IPOs.

Against this backdrop, we investigate the impact of career-related motives on the behavior of Chief Financial Officers (CFO) conducting an IPO. Given the critical responsibilities that CFOs shoulder in terms of overseeing financial reporting, managing internal controls, and ensuring compliance with accounting regulations (Ge et al., 2011; Graham and Harvey, 2002; Hoitash et al., 2016), it is surprising that there is scarcity of scholarly attention on the potential impact of CFO career concerns on IPO reporting quality.[1] This is especially noteworthy when considering the influence of accounting information in the price discovery process of IPOs (e.g., Brau and Fawcett, 2006; Willenborg et al., 2015). In addition, a successful IPO can translate into greater visibility, prestige, and span of control (Chen et al., 2020). Thus, to the extent that CFOs build up their credibility and reputational capital through interactions with other capital market participants, high-profile events such as the IPO, represent a unique opportunity to enhance their visibility and provide powerful incentives to signal their abilities (Greene and Smith, 2020). Consequently, providing evidence on whether the desire of CFOs to improve their labor market value influences their actions when conducting an IPO is essential for improving our understanding of the underlying drivers of IPO success.

Newly public firms are characterized by particularly high levels of information asymmetry between management and the firm's dispersed shareholders, making earnings management a powerful tool to favorably influence the stock price (e.g., Friedlan, 1994; Bohn and Choi, 1996; Teoh et al., 1998a; Teoh et al., 1998b; DuCharme et al., 2001). On the other hand, because there is added market scrutiny associated with the newness to the investment public, the resulting threat of increased litigation and reputation risk can deter earnings management, making IPO managers more conservative in their financial reporting decisions (e.g., Armstrong et al., 2016; Ball and Shivakumar, 2008; Cecchini et al., 2012; Hribar and Collins, 2002). In light of this tension, a natural question is how the career concerns of CFOs shape their financial reporting incentives in anticipation of the IPO.

Our maintained assumption is that the market is likely to be more uncertain about the ability of top executives who are young or newly appointed, because in most of these cases there are limited or no past records of performance (e.g., Ali and Zhang, 2015; Gibbons and Murphy, 1992). Thus, to assess the ability of these managers, the market tends to rely on their current (i.e., short-term) performance (Fama, 1980; Holmstrom, 1999). An unfavorable assessment of their ability can have significant adverse effects, including termination and poor job prospects thereafter (Karpoff et al., 2008). Therefore, career concerns (i.e., concerns about the impact of current performance on contemporaneous and future career prospects) are greater when a manager is young or further from retirement because the greater expected future career increases the importance of labor market's assessment of managerial ability. Acknowledging this, managers with greater career concerns have strong incentives to undertake actions that may favorably influence the markets' perception of their ability (Gibbons and Murphy, 1992). Nevertheless, the existing evidence as to whether these actions increase firm value is inconclusive.

One strand of the literature argues that because the market assessment of managerial performance is primarily based on firm's realized current profits, managers will be more interested in short-term performance and less concerned with the long-run performance of their organization (Nagar, 1999; Stein, 1989). This managerial myopia scenario suggests that CFOs subject to severe career concerns might opt to overstate short-term earnings in anticipation of the IPO, by adopting suboptimal accounting, disclosure, and investment practices, in order to report a strong performance and a rosy outlook for the firm.

A temporary overstatement of earnings can benefit opportunistic CFOs in multiple ways. For example, it can boost the issue price and increase the IPO proceeds, which directly translate to greater cash holdings (Ali and Zhang, 2015; Chen et al., 2018; Tang et al., 2021), thereby enabling them to scale up the firm by pursuing negative net present value (NPV) projects that provide them with short-term private benefits (e.g., "empire building", "pet projects", or other forms of perquisite consumption). Alternatively, it can lead to direct monetary benefits from a temporary increase in the share price if CFOs can exit their equity position (i.e., bump and dump)

[1] Larcker and Tayan (2018) report that formal governance systems are put in place (for the first time) primarily as part of a company's plan to go public and CFOs are more likely than CEOs to be brought on as part of this transition process, presumably because their financial sophistication enables them to be more effective in certifying and communicating the issue to capital market participants.

before the firm experiences a price correction (Sletten et al., 2018). Even if they do not manipulate financial reports for immediate personal financial gains, they might succumb to pressures from pre-IPO shareholders to artificially inflate reported earnings, because the latter have both strong incentives to manipulate earnings and significant influence over managers' career outcomes (Ertimur et al., 2014).[2]

On the other hand, other studies posit that when faced with greater career concerns, managers are under greater pressure to work harder and more efficiently to increase firm output, which, in turn, leads to reduced agency costs and higher firm value (Hermalin and Weisbach, 1998; Holmstrom, 1999). This might be the case because managers with longer decision horizons have long-term goals that are better defined than those of managers who have shorter decision horizons (e.g., internal promotional goals). In our context, younger or short-tenured CFOs are more likely to prioritize long-term firm goals over short-term (private) benefits than CFOs approaching retirement or older in the position, because they have more to lose from potential firm under-performance due to aggressive earnings management (Florackis and Sainani, 2021; Cheng et al., 2016).

Under this scenario, the threat of litigation and potential reputation losses will deter CFOs with severe career concerns from inflating earnings to personally benefit from trades. Instead, it will discipline them and increase their capacity to resist undue pressures from pre-IPO shareholders to engage in misreporting (Florackis and Sainani, 2021). Therefore, CFOs aspiring to gain upward mobility will strive to price the equity fairly and will also be eager to convey this fact to the market by using their discretion to communicate private information and facilitate the identification and implementation of the optimal investment plans (Wongsunwai, 2013).

As a preliminary step to our empirical analysis, we show that CFOs with longer expected career horizons during IPOs are associated with superior future CEO labor outcomes, thus validating the importance of IPOs in shaping managerial career progression. Accordingly, to distinguish whether the managerial myopia view vs. the discipline view of managerial career concerns prevails, we use a sample of 1,215 U.S. IPO firms from 2000 to 2017. Since younger and short-tenured managers have longer expected tenure, in our baseline tests, we combine information about the tenure and age to construct a CFO-specific measure of career concerns (Antia et al., 2010; Lee et al., 2018). Using a range of earnings management (EM) measures, we initially document that issuers with CFOs facing severe career concerns are less likely to take actions that result in poor discretionary reporting quality at the IPO year, supporting the discipline view of CFO career concerns. Our baseline findings are economically significant. For instance, one standard deviation increase in CFO career concerns is associated with a 15.78% reduction in our aggregate EM index relative to its mean.

To improve our identification strategy, we use non-compete clauses that increase the cost of job switching for managers by constraining opportunities for future employment (Garmaise, 2011). Previous studies show that stricter enforcement of these provisions reduces managers' labor market mobility and heightens their career concerns (Chen et al., 2018; Tang et al., 2021). Exploiting state-level changes in the enforceability of non-compete provisions as a source of exogenous variation to local labor market mobility, we theoretically predict and empirically find that the negative relation between CFO career concerns and earnings management around IPOs is more pronounced for firms located in states where the enforceability of non-competition agreements is tightened. To further alleviate endogeneity concerns associated with bias observable omitted factors, we also implement an entropy balancing.

Next, we examine whether the relationship between CFO career concerns and earnings management around IPOs varies in predictable ways. We argue that a channel that could explain why CFOs with significant career concerns exhibit a conservative behavior during IPOs is the labor market discipline (Fama, 1980). We expect that the disciplining effect of the labor market on CFOs will be stronger stronger in the presence of contractual mechanisms explicitly designed to deter earnings management associated with career concerns or litigation penalties related to financial misconduct. We also anticipate that managers subject to greater career concerns exhibit a greater level of resistance to the pressure of pre-IPO shareholders to manage reported earnings upwards (Florackis and Sainani, 2021). Cross-sectional tests support these conjectures, reinforcing the conclusion that our findings are rooted in career-related incentives and not confounded by omitted variables.

Finally, using path analysis, we find that CFOs with greater career concerns exploit their discretion to enhance the reporting quality of IPOs at the issue year and are eventually rewarded for such behavior with higher long-term IPO performance and superior future labor market success (i.e., promotion to the CEO position in the same or another firm), suggesting that their actions around the time of the offering have a long-lasting, beneficial impact on both the firm and their career.

This study contributes to the literature in several ways. First, we contribute to the literature on the impact of top executives on the information environment and long-term viability of newly public firms (Colak et al., 2021b; Hendricks et al., 2019; Lowry and Murphy, 2007). While previous studies contend that, due to their financial expertise, CFOs can perform a special role in fundraising events such as IPOs (e.g., Brau and Fawcett, 2006; Larcker and Tayan, 2018), to the best of our knowledge, this is the first study that provides systematic empirical evidence supporting this claim.

Second, we add to the literature examining the impact of CFOs on financial reporting and investment outcomes. While existing studies primarily focus on how CEO characteristics affect corporations (e.g., Bergstresser and Philippon, 2006; Huang et al., 2012; Baginski et al., 2018; Edmans et al., 2022), a limited but growing line of research considers whether various CFO attributes, such as compensation incentives (Kim et al., 2011), the power to resist undue pressures to manage earnings (Florackis and Sainani, 2021; Sletten et al., 2018), or the nature of their employment background (Hoitash et al., 2016), also play a meaningful role in explaining

[2] Note that if managers' attempts to inflate reported earnings fail to fool investors, and instead, if rational investors dismiss the opportunistic portion of earnings when pricing the offering, we should not observe a relationship between earnings management around IPOs and subsequent stock price declines or future legal consequences. Existing empirical work does *not* support this claim (e.g., Sletten et al., 2018; Wu, 2022). Therefore, it seems that IPO issuers successfully, to some extent, window address IPO performance, as investors do not fully anticipate and are continuously surprised by the post-IPO declined in operating performance.

managerial decisions. By examining how CFO career-related incentives affect the firm's financial reporting and investment decisions, we also identify another crucial factor driving CFO behavior, thereby providing a more complete picture on the influence of top managers' incentives on corporations.[3]

Overall, our findings suggest that when hiring CFOs, firms planning to go public should not only consider the financial expertise or the compensation incentives of these managers, but also their career horizon and the potential impact of labor market discipline on their behavior. Our analysis reveals that their career-related incentives could mitigate agency conflicts arising from the uncertainty and information asymmetry which is inherent in IPOs. Therefore, it would seem natural that board of directors be aware of the career stage implications on the behavior of CFOs.

2. Prior literature on the impact of career concerns on managerial behavior

Corporate boards and investors continuously evaluate the abilities of top managers using a range of firm performance measures, such as earnings and stock prices. Because an unfavorable assessment can lead to adverse future labor market outcomes, executives who are concerned about their future career prospects are motivated to send positive signals about their performance (Pae et al., 2015; Pae, 2021). While the role of their career-related incentives on corporate policies has attracted significant scholarly attention, the existing theoretical and empirical evidence does not provide a clear answer as to how managers respond to their career concerns and labor market pressures.

One strand of the literature posits that because the influence of current firm performance is greater for agents with less established records of performance (i.e., younger or short-tenured agents), to avoid being labeled as having low ability and suffer through their whole career, managers at early stages of their career may become more concerned with the short-term rather than the long-run performance of their organization. To address this concern, these managers might prefer to pursue policies that boost short-term profits at the expense of long-term profits, in the hope of increasing their human capital (even temporarily), possibly at the detriment of long-term firm value (e.g., Ali and Zhang, 2015; Nagar, 1999).

In addition, to ensure that this myopic behavior is not exposed to shareholders, they will attempt to limit the ability of capital and labor markets to effectively monitor and discipline them by undermining the transparency and quality of the firm's financial statements (Shleifer and Vishny, 1989; Stein, 1989).[4] In support of these arguments, prior studies show that managers facing severe career concerns tend to send desirable signals to the market about their performance by overstating reported earnings (Ali and Zhang, 2015; Chen et al., 2018), delaying adverse news disclosure (Ali and Zhang, 2015; Baginski et al., 2018), and providing biased management guidance (Pae et al., 2015).

In contrast, other studies argue that, compared to established and experienced managers, those who are younger or newer in the position have a longer decision horizon (e.g., Holmstrom, 1999). Because managers' claim on the firm is limited to their tenure, while a firm's lifespan is much longer, managers with longer career horizon are more likely to adopt a long-term orientation and avoid sacrificing long-term value for short-term goals (Antia et al., 2010). Thus, the labor market, as a disciplinary mechanism, is more effective for agents in the early years of their careers because it ensures a long-term accountability of their actions (Fama, 1980). Under this scenario, greater career concerns imply a longer expected tenure (defined as the expected amount of time before an agent is dismissed or retires), which leads to lower agency conflicts. In line with this idea, Holmstrom (1999) shows analytically that career concerns motivate young and junior managers to work harder, whereas empirical studies document that these managers are less likely to engage in opportunistic behavior (Antia et al., 2010; Gao et al., 2018; Lee et al., 2018).

2.1. Hypotheses development

Research suggests that the IPO process is particularly susceptible to earnings management, offering entrepreneurs both opportunities and motivation to engage in upward earnings management in order to influence IPO pricing (e.g., Friedlan, 1994; Bohn and Choi, 1996; Teoh et al., 1998a; Teoh et al., 1998b; DuCharme et al., 2001). The opportunity is thought to exist due to the high inherent uncertainty surrounding the IPO and severe information asymmetry between insiders and outsiders, which make it difficult for investors to disentangle truthful communicators from opportunistic managers (Sletten et al., 2018). The incentive for earnings management is also thought to be heightened for at least two reasons. First, due to the transition to public ownership, managers are evaluated on the basis of market performance measures (i.e., the company's stock price). Second, the IPO represents the first

[3] When it comes to corporate disclosure, prior studies (e.g., Geiger and North, 2006; Ge et al., 2011) show that CFOs have a significant effect on companies' financial reporting. However, none of these papers explicitly considers the role of CFO career concerns on financial reporting and firm performance.

[4] It is worth noting that such costly and counterproductive efforts to distort a firm's information environment are not necessarily observed only among low-ability managers. Instead, they can become prevalent even among talented but temporarily underperforming managers. For instance, when there is sufficient adverse selection (which is usually the case for managers at the beginning of their working life), the inability of the market to distinguish to what extent temporarily low reported earnings is due to poor managerial ability, induces managers with superior quality to signal their ability to outsiders by inflating the bottom line (Stein, 1989). Similarly, although managers typically possess private information and have the discretion to disclose it, they may not be fully informed about the investors' beliefs and their valuation mechanisms. In this case, they will be uncertain about the market's assessment of their human capital if they disclose this private information, and to avoid an adverse performance evaluation they will prefer less disclosure Nagar (1999).

opportunity for large pre-IPO shareholders and managers to diversify the (often substantial) holdings they accumulated before the company was publicly traded (Armstrong et al., 2016).

At the same time, newly public firms face increased litigation risk relative to their more mature, publicly traded counterparts. The increase in litigation risk largely stems from relaxed legal requirements that do not require shareholders (i.e., plaintiffs) to provide causation or intent of wrongdoing (e.g., Lowry and Shu, 2002; DuCharme et al., 2004, Billings and Lewis-Western, 2016; Wu, 2022).[5] IPO firms are also subject to heightened regulatory scrutiny and intense monitoring by various parties that are involved in the IPO process (i.e., auditors, boards, analysts, rating agencies, press, and litigants).[6] Appealing to this notion, recent studies show that the average IPO firm reports conservatively (Ball and Shivakumar, 2008; Venkataraman et al., 2008; Cecchini et al., 2012; Armstrong et al., 2016).

In this context, the role of managerial career concerns is salient because it can shape the tension that issuers experience when they prepare financial reports and registration materials for firms planning to go public. Yet, as noted previously, the extant theoretical and empirical evidence as to whether career concerns encourage or deter opportunistic earnings management is inconclusive. Some studies contend that, because the market assessment of younger or short-tenured managers is more sensitive to current firm performance (Fama, 1980; Holmstrom, 1999), these agents may adopt a myopic attitude and prefer policies with faster paybacks but negative NPV. This argument suggests that, when conducting an IPO, CFOs facing strong career concerns might be under pressure to deliver quick results, which in turn, implies that they will over-emphasize their personal career enhancement and opt to opportunistically exploit their discretion in developing financial reporting and investment policies that will lead to temporarily inflated reported earnings – a crucial input in the IPO valuation process (Brau and Fawcett, 2006; Willenborg et al., 2015).

In the IPO setting, overstating accounting profits may benefit the CFO in various forms. For instance, it can lead to an inflated issue price and greater IPO proceeds, which may help opportunistic CFOs to meet optimistic earnings projections made during road shows as well as analysts' earnings forecasts or to channel the offering's proceeds to projects with significant private benefits but questionable contribution to the firm's long-term viability (Armstrong et al., 2016). It may also translate to direct monetary benefits from a temporary increase in the share price, depending on the ability of CFOs to exit their equity position before the firm experiences a price decline (Sletten et al., 2018).

Yet, managers' own profit is not the only potential incentive for manipulating earnings. Large pre-IPO shareholders such as venture capitalists, private equity, and hedge fund investors hold considerable influence over management through their ownership stakes, board membership, compensation contracts, and relationships with management (Ertimur et al., 2014). In addition, because these shareholders benefit from executing sales of IPO shares at a higher price, they can exert their influence to affect (and profit from) opportunistic reporting strategies (Ertimur et al., 2014). Thus, to the extent that career of CFOs depends on influential shareholders with short horizon selling incentives, they might succumb to pressures to inflate the reported profits even without personally benefiting from these trades (Sletten et al., 2018).

One might argue, of course, that the market will be able to see through such tactics, thereby rendering any attempts to manage earnings unsuccessful. If this hypothesis was true, rational investors would anticipate that the outcomes of such tactics have to unwind in the periods following the offering. Hence, earnings management around IPOs should not be a significant determinant of future post-IPO adverse outcomes such as the profitability of trading activity, stock underperformance, delisting likelihood, and litigation risk. However, recent studies document that IPO earnings management enables influential shareholders to sell their shares at higher prices and is also systematically related to long-run IPO underperformance (Sletten et al., 2018), thereby triggering higher delisting rates (Anagnostopoulou et al., 2021), SEC enforcement actions (Armstrong et al., 2016), and costly litigation events (Wu, 2022). As such, it seems that investors do not appear to fully unravel earnings management around the time of the issue, at least in a timely fashion.

Notwithstanding the above, another line of research notes that because managers subject to elevated career concerns have a long decision horizon, their behavior and actions will be long-term oriented (e.g., Holmstrom, 1999). Given that earnings management requires borrowing earnings from other periods (either the past or the future), CFOs whose careers are at stake will be particularly concerned about the impact of the reversal of inflated IPO earnings in the years following the offering on their reputation capital.[7] Under this scenario, they will resist the temptation to boost current performance by overstating discretionary accruals or altering business transactions (i.e., underinvesting). This reasoning suggests that CFOs in a position to benefit themselves through misreporting do not do so, likely due to the threat of shareholder litigation and the efficacy of insider trader regulations (Sletten et al., 2018). Even in the absence of personal gain, the high detection risk of accounting misstatements and the elevated litigation exposure of newly public firms is also likely to make CFOs more resistant to undue pressure from influential shareholders to manage earnings upwards.[8] Collectively, this view suggests that labor market incentives for career advancement will discipline CFOs when conducting an IPO.

Since it is not ex-ante clear whether the myopia or the discipline view of career concerns dominates, we state our hypotheses in their alternative form:

H1a. . *Managerial myopia hypothesis*: CFOs with severe career concerns engage in more aggressive upward earnings management

[5] Wu (2022) reports that IPO companies face more severe litigation consequences of accounting misstatements than non-IPO companies.

[6] A detailed discussion about securities litigation background of IPO firms can be found in Armstrong et al. (2016).

[7] For many CFOs, the IPO constitutes a visibility shock because it is the first time they operate in the public domain and under significant media attention. Because CFOs are typically financial experts, the perceptions of their skills and reputation are often based on the success of interactions with financial markets such as the IPO.

[8] Ertimur et al. (2014) note that, unlike venture capitalists, whose distributions of shares are exempt from the SEC's Section 16 rules, managers face significant litigation risk stemming from Rule 10b-5 and other insider trading regulations.

during IPOs, either for personal, short-term benefits or because they cede to pressures to inflate reported earnings from influential shareholders with short decision horizons.

H1b. . *Managerial discipline hypothesis*: CFOs with severe career concerns report more conservatively, because litigation and reputation threats outweigh personal short-term gains from misreporting and increase their resistance to pressures to engage in misreporting from large, myopic shareholders.

3. Sample selection procedure and methodology

Our sample selection starts with identifying all the U.S. IPOs between 2000 and 2017 in the Thomson ONE Banker (Eikon Refinitiv) database. Following common filtering criteria in the IPO literature (Lowry et al., 2017; Colak et al., 2021a), we eliminate financial institutions, American Depository Receipts (ADRs), closed-end funds, reverse leveraged buyouts (LBOs), unit offers, and any other non-common stock type of shares. In addition, we eliminate any IPOs with offer price below $5. We obtain IPO background and issuance information from the Thomson ONE Banker, including the issue data, offer price, whether the firm is backed by venture capitalists and the details of the underwriters involved. For the underwriter prestige ranking, the study employs Carter and Manaster (1990) underwriter reputation ranking which are updated by Loughran and Ritter (2004).[9] Accounting data are retrieved from the Compustat database and public trading prices are obtained from the Center for Research and Security Prices (CRSP).

Next, we manually search for the CFO name of each IPO firm using the IPO prospectuses which are available in SEC's Electronic Data Gathering Analysis and Retrieval System (EDGAR) in order to extract CFO biographical information (e.g., age, tenure, education) or compensation data, and the BoardEx database for information about their prior work experience. In doing so, we follow a conservative approach and discard firms without named CFOs and firms with missing data about their chief financial executives. Our final sample consists of 1215 IPOs with complete data (see Table 1).

3.1. Main outcome variables

The period around the IPO is characterized by two events: the IPO itself and the lockup expiration. Sletten et al. (2018) note that both the raising of capital at the IPO and the exit by pre-IPO shareholders at lockup expiration induce firms to hype the stock price through earnings management. Therefore, the incentive to inflate issue prices relates to earnings reported prior to the IPO but also after the IPO because the incentives to manage investors' expectations about firm value are likely to persist in the months immediately after the offering.

To examine whether CFO career concerns can shape the financial reporting incentives of CFOs conducting IPOs, we consider two main outcomes: accrual-based earnings management (AEM) and real earnings management (REM). Both AEM and REM are measured in the year of the IPO. The IPO-year refers to the fiscal year during which the firm has its IPO, which includes both pre-IPO and post-IPO months. Annual financial statements for the IPO-year therefore refer to the first set of financial statements reported after the IPO. Similarly, the fiscal year prior to the IPO refers to the most recent set of pre-IPO financial statements that were disclosed in the prospectus and would have been available to market on the issue date.[10] Fig. 1 illustrates our timing convention.

Due to their proximity to the firm's operations, generally accepted accounting principles (GAAP) allow managers to make accounting estimations in order to increase the informativeness of financial reports (Dechow and Skinner, 2000). However, AEM often involves borrowing earnings from future period through discretionary accruals to increase the current reported earnings (Teoh et al., 1998a, 1998b). The inflation of current reported earnings can take the form of either accelerating future revenues to the current period or deferring current expenses to a future period, implying that AEM is a mechanical one-to-one decrease in future earnings. Although accruals manipulation does not have a first-order effect on cash flows, it involves accounting judgment, and an abnormal level of accruals (in relation to sales, cash flow, or assets) will attract unwanted attention of auditors, investors and regulators, which in turn, may result in adverse consequences for managers involved in cases of aggressive earnings manipulation (Dechow et al., 2010; Hazarika et al., 2012).

Taking into account the severe scrutiny on accrual-based EM, CFOs who are concerned about their reputation capital and future job prospects may resort to real earnings management (Graham et al., 2005). In this case, managers can boost reported earnings by cutting discretionary expenditures (such as R&D, advertising, and other SG&A expenses), through overproduction, which reduces the overhead cost charged to cost of goods sold, or through sales manipulation by offering lenient credit terms or large sales discounts to customers (Roychowdhury, 2006). In contrast to accrual-based EM, these interventions directly affect the firm's cash flows because they can change the timing and structure of operational activities (Cohen and Zarowin, 2010). Although they entail lower expected private costs for executives, due to their lower likelihood of detection than accrual-based EM methods, the consequences of REM can be economically significant to the firm (Dechow et al., 1996).

[9] Underwriter rankings are available here: https://site.warrington.ufl.edu/ritter/ipo-data/. We would like to thank Jay Ritter for making these data publicly available.

[10] In unreported analysis, we repeated our tests using solely pre-IPO data. The resulting dataset was substantially smaller because the calculation of our earnings management measures requires data for two years before the IPO which are available only for a subset of companies. Nonetheless, our main conclusions are robust to this restricted sample.

Table 1
Sample selection procedure.

Description and Criteria	Firms
Initial Sample (SDC/Refinitiv data between 2000 and 2017)	3279
Less Real Investment Trusts (REITs), unit offerings, closed-end funds, Foreign Issues, royalty trusts, limited partnerships, Spinoffs, Reverse Leveraged Buyouts (LBOs), American Depository Receipts (ADRs)	(1198)
Less Financial Institutions	(433)
Exclude Firms with Offer Price less than five dollars	(170)
Exclude Firms without nominated CEOs	(131)
Excluded Firms without nominated CFOs	(10)
Excluded Firms with missing data about their CEOs and CFOs	(25)
Exclude Firms with Missing S-1 Filings	(14)
Exclude Firms that are fewer than 10 in each Industry	(83)
Final Sample	1215

This table presents the sample selection procedure of our study.

3.1.1. Accrual-based earnings management

To estimate accrual-based earnings management, we use the modified Jones (1991) model which is described in Dechow et al. (1995). In applying the modified Jones model, we first estimate for each year the following model cross-sectionally for all firms in the same two-digit SIC industry as the IPO firm yet excluding firms going public in three years' time:

$$\frac{TACC_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{\Delta SALES_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (1)$$

Where $TACC_{i,t}$ is total accruals computed as earnings before extraordinary items and discontinued operations less cash flow from operations; $TA_{i,t-1}$ is lagged total assets; $\Delta SALES_{i,t}$ is the change in total sales from the fiscal year before the offering to the fiscal year of the IPO; and $PPE_{i,t}$ is the gross value of property, plant, and equipment. All variables are winsorised at the 1 and 99 percentile level to mitigate the influence of outliers. We require at least 10 firms in an industry-year to run the regressions. This method helps us to control for changes in economic conditions for specific years and industries that may influence total accruals independent of any managerial manipulation. The coefficient estimates from Eq. (1) are then used to estimate the expected component of total accruals (NACC) for the IPO sample as follows:

$$NACC_{i,t} = \widehat{\beta_0} \frac{1}{TA_{i,t-1}} + \widehat{\beta_1} \frac{\Delta SALES_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \widehat{\beta_2} \frac{PPE_{i,t}}{TA_{i,t-1}} \quad (2)$$

Where $\Delta REC_{i,t}$ is the change in receivables from the fiscal year before the offering to the fiscal year of the IPO. While the normal component of accruals reflects the portion of financial performance which is not affected by the manager's judgment, the abnormal accruals ($AACC_{i,t}$) represents the discretionary portion of accruals which is manipulated by managers and is computed as the difference between total accruals and expected accruals[11]:

$$AACC_{i,t} = \frac{TACC_{i,t}}{TA_{i,t-1}} - NACC_{i,t} \quad (3)$$

3.1.2. Real earnings management

Following prior studies, we rely on the three metrics proposed by Roychowdhury (2006) to compute our real EM proxies: (i) abnormal cash flow from operations, (ii) abnormal production costs, and (iii) abnormal discretionary expenses.

The normal level of cash flow from operations is expressed as a linear function of sales and change in sales in the current period:

$$\frac{CFO_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{SALES_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{\Delta SALES_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (4)$$

Where $CFO_{i,t}$ is cash flows from operation, $TA_{i,t-1}$ is lagged total assets, $SALES_{i,t}$ is total sales, $\Delta SALES_{i,t}$ is the change in sales from the fiscal year before the issue to the fiscal year of the IPO.

The model for normal production costs is estimated as a function of current sales, change in current sales, and change in past sales:

$$\frac{PROD_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{SALES_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{\Delta SALES_{i,t}}{TA_{i,t-1}} + \beta_3 \frac{\Delta SALES_{i,t-1}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (5)$$

[11] Several studies raise concerns that the abnormal accruals measured using the Jones model are correlated with firm performance; therefore, the Jones model is misspecified when being applied to firms experiencing extreme performance (e.g., Dechow et al., 1995). To address this issue, we also repeated the analysis by applying the method suggested by Kothari et al. (2005) to match abnormal accruals of each IPO firm with a non-IPO firm in the same two-digit SIC industry and year with the closest prior-year ROA. We exclude firms whose matched non-IPO firm has ROA outside the range +/− 10% of the IPO firm's ROA. The matched firm's abnormal accruals are deducted from the IPO firm's abnormal accruals to yield the performance-matched abnormal accruals for the IPO firm. Unreported tests indicate that our conclusions are not sensitive to this estimation method.

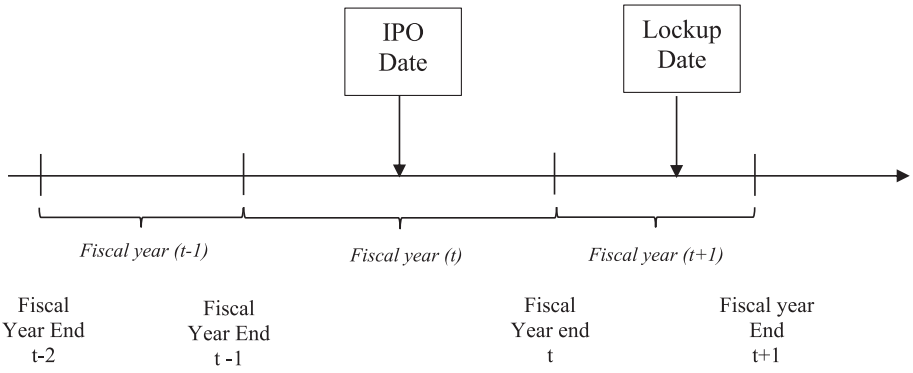

Fig. 1. Timeline of IPO events.
This depicts how the periods preceding and following the issue date relate to the initial public offering (IPO). The fiscal year in which the IPO occurs is year *t*. Thus, fiscal year *t-1* ends before the date of the IPO, and the fiscal year *t* includes both pre- and post-IPO information. Our financial statement information (e.g., reported earnings) is taken from fiscal year *t*. As discussed earlier, IPO firms have an incentive to manage both pre-and immediate post-IPO earnings. Since our measures of AEM and REM are based on the IPO fiscal year (which includes pre-IPO and post-IPO months), they can capture (at least to some extent) earnings management related to both the issue date and the lockup date of the IPO.

Where $PROD_{i,t}$ is the production costs computed as the sum of the cost of goods sold and the change in inventory from the fiscal year before the IPO to the fiscal year of the issue. $\Delta SALES_{i,t-1}$ is the change in sales from the fiscal year two years before the issue to the fiscal year prior to the IPO.

The normal discretionary expenses are expressed as a linear function of lagged sales:

$$\frac{DISEXP_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{SALES_{i,t-1}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{6}$$

Where $DISEXP_{i,t}$ is the discretionary expenses computed as the sum of selling, general and administrative (SG&A), research and development (R&D), and advertising expenses. $SALES_{i,t-1}$ is total sales in the fiscal year prior to the IPO.

All the three eqs. (4), (5), and (6) are estimated cross-sectionally for each industry-year with at least 10 observations as the IPO firm yet excluding firms going public in three years' time. We winsorize all variables at the 1 and 99 percentile level to mitigate the issue of outliers. The abnormal CFO (*ACFO*), abnormal production costs (*APROD*), and abnormal discretionary expenses (*ADISEXP*) are computed as the differences between the actuals values and the normal values using the estimated coefficients from the eqs. (4), (5), and (6). Given sales levels, firms that engage in these real EM activities to overstate earnings tend to have unusually low cash flow from operations, unusually high abnormal production costs, or unusually low discretionary expenses. In our multivariate regression models, abnormal CFO (*ACFO*) and abnormal discretionary expenses (*ADISEXP*) are multiplied by (−1), so that higher values indicate more aggressive REM.

3.1.3. Aggregate earnings management indexes

To measure the total effect of real earnings management, we combine the three individual REM metrics to compute two comprehensive measures of real earnings management activities. For our first measure, *REM1*, we follow Cohen and Zarowin (2010) and first multiply abnormal discretionary expenses by negative one (so that higher values indicate more aggressive discretionary cost cutting) and add it to abnormal production costs. The higher the amount of *REM1*, the more likely the firm inflates reported earnings through cutting down investment in discretionary expenses or overproduction.

In a similar spirit, for the second measure, *REM2*, we first multiply abnormal cash flows from operations and abnormal discretionary expenses by negative one (so that the higher these amounts are, the more likely that the firm is engaging in sales manipulations and cutting discretionary expenditures to manage reported earnings upwards) and then combine them into one measure. Finally, we consider an aggregate earnings quality index which captures the quality of earnings managed through either accruals or real activities. We denote this variable as the *Aggregate EM Index* and construct it by taking the first factor of applying principal component analysis (PCA) to the following variables: *AACF*, *AOCF*, *APROD*, and *ADISEXP*.

3.2. Operationalization of CFO career concerns

Seminal studies on labor economics studies argue that younger or short-tenured managers expect their tenure to be longer, due to greater concerns about their future job prospects compared to established managers (e.g., Holmstrom, 1999; Gibbons and Murphy, 1992). Motivated by this work, age and tenure are frequently used in the literature as proxies of managerial career concerns (Ali and Zhang, 2015; Firk et al., 2023). Younger or short-tenured CFOs have longer expected career horizons than senior or seasoned CFOs. As such, they have a greater proportion of their lifetime reputation and earnings at risk if they are caught for wrongdoings, which implies that they have greater career concerns. Nonetheless, as we elaborate below age and tenure may capture different aspects of managerial career concerns.

Tenure represents the duration a CFO has served within the company and captures the employment concerns related to the present position (Miller, 1991; Matta and Beamish, 2008). A longer tenure may signify deeper connections with fellow executives and stakeholders (Simsek, 2007), entrenched positions, and resistance to change, potentially shaping CFOs' approaches to earnings management and other decisions (Ali and Zhang, 2015; Florackis and Sainani, 2021). Thus, CFOs who have been with the firm for one year may feel less secure about their career at the firm compared to CFOs with a longer tenure. In this respect, tenure mainly captures internal (within firm) career concerns.

Age indicates the general phase of a CFO's professional journey and may encompass broader career aspects, including succession planning, enduring career objectives, and retirement strategies. Senior CFOs might harbor dissimilar career concerns compared to their junior counterparts, potentially due to nearing retirement or divergent aspirations regarding career progression and risk propensity (Huang et al., 2012). For example, a senior CFO may feel more secure about outside job opportunities relative to a young CFO, due to the relatively higher accumulated experience and reputational capital. For the same reasons, a senior CFO will also possess higher bargaining power within the firm, which implies that he/she may be less concerned about his/her future/positions, even if he/she has a short tenure (i.e., one year) than a younger CFO. In this regard, age proxies for external career concerns and possibly for internal career concerns.

A natural question is which dimension of career concerns has the strongest influence on managerial behavior. Although both age and tenure might affect managerial decisions in similar ways (either positively or negatively), it is not clear ex ante which dimension has a stronger impact on the reporting practices of IPOs. For this reason, in our baseline tests, we follow Antia et al. (2010) and Lee et al. (2018) and operationalize CFO career concerns as the CFO' expected career horizon within or outside the firm. In doing so, we measure CFO career concerns as the sum of the CFO's current age and length of tenure within firm:

$$CFO\ Career\ Concerns_{i,t} = \left(Tenure_{i,t} + AGE_{i,t}\right) \times (-1) \tag{7}$$

where $Tenure_{i,t}$is the number of years the CFO has held that position prior to IPO, $AGE_{i,t}$ is the age of the CFO who works for firm i in year t. For ease of interpretation, in our multivariate regression models, we multiply the above sum by negative one, so that higher values of the *CFO Career Concerns* variable correspond to longer expected tenure, and hence, greater career concerns.[12,13]

In addition, a general view from the literature is that managerial career horizons may be fundamentally different across industries, with less mature industries consisting of companies with top managers who are younger or newer in the position than managers in mature firms and vice versa (Lucier et al., 2002). Motivated by this observation, Antia et al. (2010) and Lee et al. (2018) transform the CEO career concerns measure by subtracting its industry average (i.e., mean or median). Although this approach has merit, Gormley and Matsa (2014) argue that such "industry-adjustment" typically suffers from an omitted variable bias because it fails to control for unobserved heterogeneity in the other independent variables or the dependent variable. Instead, they suggest using a fixed effects estimator by adding group indicator variables to the OLS estimators, since this approach is equivalent to demeaning all the dependent and independent variables with respect to the group under consideration. Therefore, to account for unobserved heterogeneity at the industry-level, we estimate our models using industry fixed effects. Following a similar logic, we also include year fixed effects to remove unobserved heterogeneity at the year-level.[14]

3.3. Model specification

The major focus of this study is to estimate the relation between CFO career concerns and earnings management around IPOs. Our baseline model takes the following form:

$$Earnings\ Management_{it} = \beta_0 + \beta_1 CFO\ Career\ Concerns_{it} + \beta_2 Controls + Fixed\ Effects + \varepsilon_i \tag{8}$$

Our dependent variable, *Earnings Management*, is one of the following earnings management proxies: abnormal accruals *(AACC)*, abnormal cash flow from operation *(AOCF)*, *abnormal production costs* (*APROD*), abnormal discretionary expenses *(ADISXEP)*, *REM1*, *REM2,* and the *Aggregate EM Index.*

CFO career concerns is the main independent variable of interest and is defined above. We expect β_1 to be negative (positive) if the discipline view (managerial myopia view) is the dominant force in our sample. However, the effect of age and tenure (our proxies of career concerns) might be contaminated by latent confounding factors which may also influence earnings management. For instance, age might be correlated with improved decision-making skills, whereas a long tenure might reflect managerial entrenchment or greater firm-specific capital (Darouici et al., 2021). To better isolate the effect of CFO career concerns on EM and rule out alternative explanations, we control for several offering, company, CEO and CFO characteristics that prior literature identifies as potential determinants of earnings management. Following prior literature (e.g., Francis et al., 2008; Laux and Laux, 2009; Brown, 2015; Harris

[12] We follow the same process for CEO career concerns.

[13] We acknowledge that simply adding tenure and age may mask potential heterogeneous effects. For example, one might argue that one additional year of tenure (age) has larger impact on internal (external) career concerns. In Panel A of Table 4, we show that our baseline results are not solely driven by either tenure or age effects. In the Internet Appendix, we also explore whether age and tenure have different ramification in cross-sectional tests.

[14] We also use alternative measures of CFO career concerns, by considering either the first principal component of CFO age and CFO tenure or separately the age and the tenure of the CFO. As shown, in Table 5, none if these variants alter our main inferences.

et al., 2019), we consider whether the CFO is male *(CFO Gender)*, the percentage of CFO Ownership (*CFO Ownership*) and CEO ownership *(CEO Ownership),* whether the CFO is a qualified accountant (*CFO Qualified Accountant*) or an MBA holder (*CFO MBA*) as well as his or her prior work experience (*CFO Past Financial Experience*). We also control for the age and tenure of the CEO (*CEO Career Concerns*), the total compensation of both the CFO (*Total CEO Pay*) and the CEO (*Total CFO Pay*) as well as whether the CEO is male (*CEO Gender*) or holds the chair position (*CEO Duality*).

Our next variable accounts for the quality of corporate governance mechanisms. Specifically, we follow Laksmana (2008) and construct a variable (using principal component analysis) which captures several aspects of corporate governance, such as the degree of director independence in the board and in the nomination committee, the number of directors that were in place before the incumbent CEO, and the size of the board (*Governance Quality*). Fan et al. (2021) show that high governance quality improves financial reporting quality. As such, we expect that well-governed firms to be negatively related to incidences of earnings manipulation.

We control for the firm's financial strength and performance using leverage (*Leverage)* and earnings per share (*EPS),* respectively. We include firm age (*Firm Age*) and firm size (*Size*) to account for the firm's life cycle. IPO firms also use lockups to mitigate information asymmetry and agency problems (Brav and Gompers, 2003). Thus, we include the presence of lock-up agreements (*Lockup*) in our model.

Wongsunwai (2013) document that venture-backed firms are negatively related to EM. In addition, Jo et al. (2007) find that firms with highly prestigious top-tier investment banks are less likely to engage in earnings manipulation. With respect to audit quality, prior empirical studies have reported that firms audited by Big 4 discourage top managers from managing earnings (e.g., Gul et al., 2009). Thus, we consider the presence of venture capitalists (*VC)*, prestigious underwriters (*Underwriter*), or big four auditors (*Big 4 Auditor*), to capture the influence of these financial intermediaries on earnings quality around IPOs.

Lastly, we consider whether EM around IPOs depends on the nature of operations and capture this effect by including dummy variables which indicate whether firms belong to the technology (*Technology*) and internet (*Internet*) sectors or if it is listed in *Nasdaq*. Finally, as noted previously, we include both year and industry fixed effects in the model to mitigate for potential omitted variable problems and cluster standard errors at the year- and industry-level to account for potential non-independence of the observations (Liu and Ritter, 2011).[15] Detailed definition of our variables is provided in Appendix A.

4. Empirical results

4.1. Descriptive statistics

Panel A of Table 2 shows that the number of newly listed firms tends to decline from 2001 to 2009, as a result of the internet bubble and the global financial crisis. This pattern changes after 2010, probably due to the JOBs Act. Panel B reports the industry distribution of IPOs and reveals a high concentration of IPOs in the computer equipment and services and chemical products sectors. The entertainment services and manufacturing sectors have the lowest representation of IPO firms.

Panel A of Table 3 describes the average CFO (and CEO) profile for the subsample of firms with high and low CFO career concerns. The average CFO is 48 years old with a tenure of 2.5 years, has worked for five firms in finance or accounting roles, and in four different relevant positions (e.g., auditor, director of finance, VP finance, CFO). In addition, more than 40% of CFOs hold an MBA degree, and more than one third holds a professional financial or accounting qualification (e.g., ACCA, CPA, or CIMA). Not surprisingly, CFOs in the low career concerns sub-sample tend to have more prior work experience than their peers in the high career concerns subsample and this difference is also reflected in total compensation between these two groups. Regarding CEOs, the 90% is male, 65% holds the chair position, while their average age and total compensation is 51 years and $1518 million, respectively.

Panel B of Table 3 displays the firm and IPO characteristics for the overall sample and the subsample of firms with high and low CFO career concerns. On average, almost the half of the firms has positive EPS and around 40% of the IPOs belong to the high-tech industry. In addition, the average age of IPO firms is 13 years and 84% are audited by Big 4 accounting firms. Around 57% of the firms are VC-backed, and 71% are underwritten by top-tier investment banks. Furthermore, our findings indicate that firms with CFOs with low career concerns tend to be older with prestigious underwriters and better governance quality.

Panel C of Table 3 demonstrates the summary statistics for the EM measures. The mean value of abnormal accruals is negative (−0.10), suggesting that the average issuer reports conservatively, consistent with prior studies (Ball and Shivakumar, 2008; Sletten et al., 2018; Venkataraman et al., 2008). With respect to the real EM, the average IPO firm tends to have negative abnormal cash flows from operations (−0.10), positive abnormal production costs (0.84), and negative abnormal discretionary expenses (−0.34), all of which indicate overstated reported earnings. Taken together, these results indicate that the average IPO issuer is more likely to inflate the reported earnings during the offering year through real earnings management (REM) rather than accrual earnings management (AEM), possibly because the former are less likely to attract auditor and regulatory scrutiny than the former (Hazarika et al., 2012).

Next, we estimate the mean EM values separately for (1) IPOs led by CFOs with high career concerns and (2) IPOs led by CFOs with

[15] The use of clustering resulted in more conservative standard errors than not clustering on the dimension of either industry, time, or both. Yet, one might argue that cluster-robust standard errors are biased due to the relatively low number of available clusters (Cameron et al., 2008; Petersen, 2009). This issue is mitigated because we calculate cluster-robust standard error based on the estimator of Correia (2017), which appropriately applies the "finite-sample corrections" and degrees of freedom adjustment for reliable inference. However, in unreported tests we followed the wild cluster bootstrap approach (MacKinnon et al., 2023), generates a distribution of t-values based on a bootstrap procedure, and find that our inferences are unaffected by this restricted approach.

Table 2
Yearly and industry distribution statistics.

Panel A: Yearly Distribution		
Year	N	%
2000	173	14.24
2001	40	3.29
2002	33	2.72
2003	27	2.22
2004	95	7.82
2005	70	5.76
2006	76	6.26
2007	80	6.58
2008	13	1.07
2009	25	2.06
2010	51	4.20
2011	60	4.94
2012	65	5.35
2013	106	8.72
2014	116	9.55
2015	78	6.42
2016	50	4.12
2017	57	4.69
Total	1215	

Panel B: Industry Distribution			
Two-Digit SIC Code		All IPOs	
		N	%
Oil and Gas	(13)	39	3.21
Food Products	(20)	11	0.91
Chemical Products	(28)	251	20.66
Manufacturing	(30–34)	29	2.39
Computer Equipment & Services	(35, 73)	335	27.57
Electronic Equipment	(36)	110	9.05
Scientific Instruments	(38)	98	8.07
Transportation & Public Utilities	(41, 42, 44–49)	74	6.09
Wholesale & Retail Trade	(50–59)	102	8.40
Entertainment Services	(70, 78, 79)	16	1.32
Other		150	12.35
Total		1215	

This table presents distributional statistics for a sample of 1215 U.S. IPOs from 1 January 2000 to 31 December 2017. The IPOs are described by issue-year in Panel A, whereas in Panel B the IPOs are distributed by industry. IPO deals are retrieved from the Thomson ONE Banker (Eikon Refinitiv) database

low career concerns and compare the two estimates. The comparisons reveal that IPOs with CFOs facing serious career concerns are less likely to engage in upwards earnings management than their counterparts during the offering year, providing preliminary support to our discipline hypothesis (H1b).

4.2. Can CFO career concerns around IPOs predict future labor outcomes?

If career concerns incentivize CFOs to advance either their firm's long-term shareholder value or their private interests at the expense of shareholders, then one would expect that such behavior to be recognized by the labor market and be rewarded or punished accordingly. In this case, we should be able to observe a relationship between CFO career concerns and future labor outcomes. To investigate this possibility, we initially assess the impact of CFO career concerns on the probability of promotion to the CEO position, either internally or externally. Then, we explore whether the likelihood of CFO tenure or CFO age is a stronger predictor of internal and external promotions. To accomplish this task, we use information from BoardEx and ExecuComp along with manually collected data from DEF-14 statements from EDGAR and track the career development of our 1215 sample CFOs from the IPO date until their departure.

The univariate results of Panel A of Table 4 reveal that the likelihood of being promoted to the CEO position – either in the same firm or in another firm – is approximately 17%. When we break the sample based on the median of CFO career concerns, we observe that this is more likely to be the case for CFOs with high career concerns (18%) than CFOs with low CFO career concerns (15%). In addition, the results indicate that the incumbent CFOs are more likely to be hired as CEO (externally) in another firm (11%) rather than

Table 3
Summary statistics.

Panel A: CEO and CFO Characteristics					
	Full Sample ($N = 1215$)		High CFO Career Concerns	Low CFO Career Concerns	Dif.
	Mean	SD	Mean	Mean	*p*-value
CFO Career Concerns	−49.39	7.10	−42.53	−55.14	0.0000
CFO Age	47.80	7.01	40.81	51.93	0.0000
CFO Tenure	2.46	2.62	1.73	3.21	0.0000
CFO Gender	0.91	0.28	0.91	0.91	0.9671
CFO MBA	0.42	0.49	0.32	0.43	0.3615
CFO Qualified Accountant	0.36	0.48	0.38	0.43	0.0482
No. Roles	3.99	1.35	3.91	4.06	0.2144
No. Firms	4.95	2.12	4.21	5.24	0.0000
CFO Past Financial Experience	0.00	1.26	−0.04	0.27	0.0000
Total CFO Pay	$593,954	$1,171,842	$526.222	$643,503	0.1508
CFO Ownership	0.007	0.018	0.009	0.006	0.1750
CEO Career Concerns	−53.92	9.23	−52.50	−55.11	0.0012
CEO Age	50.60	7.96	48.56	51.29	0.0000
CEO Tenure	3.53	4.24	3.94	3.81	0.6209
CEO Gender	0.90	0.30	0.89	0.91	0.6430
CEO Duality	0.65	0.47	0.56	0.73	0.0000
Total CEO Pay	$1518,215	$2,739,011	$1,243,893	$1,746,027	0.0159
CEO Ownership	7.74	13.63	8.35	7.12	0.1150

Panel B: Firm and Offering Characteristics					
Governance Quality	0.05	1.52	−0.09	0.20	0.0039
Leverage	0.44	1.29	0.48	0.40	0.3110
EPS	0.45	0.50	0.44	0.46	0.4510
Firm Age	13.44	16.08	12.24	14.60	0.0069
Size	$782.93	$5212.43	$550.103	$1037.44	0.0117
Lockup	0.85	0.35	0.83	0.88	0.0093
VC	0.57	0.49	0.60	0.55	0.2258
Underwriter	0.71	0.45	0.66	0.78	0.0000
Underpricing	21.19	41.94	24.14	19.34	0.0504
Big 4 Auditor	0.84	0.36	0.84	0.84	0.8661
Technology	0.39	0.49	0.41	0.38	0.0911
Internet	0.10	0.30	0.12	0.09	0.0733
Nasdaq	0.70	0.46	0.73	0.66	0.0065

Panel C: Earnings Management Proxies						
	Full Sample (N = 1215)			High CFO Career Concerns	Low CFO Career Concerns	Dif.
	Mean	SD	Median	Mean	Mean	p-value
AACC	−0.10	0.74	−0.03	−0.14	−0.06	0.0015
AOCF	−0.10	0.74	0.03	−0.12	−0.08	0.0906
APROD	0.84	1.64	0.40	0.82	0.86	0.6040
ADISEXP	−0.34	1.68	−0.04	−0.47	−0.23	0.0060
REM1	0.50	2.13	0.30	0.38	0.60	0.0560
REM2	−0.23	0.99	−0.04	−0.32	−0.7	0.0015
Aggregate EM Index	0.18	1.44	0.28	−0.01	0.24	0.0100

The table presents descriptive statistics for the sample of U.S. IPOs over the period from 2000 to 2017. CFO and CEO characteristics are presented in Panel A. Firm and offering characteristics are reported in Panel B, while Panel C presents the statistics on earnings management proxies. Tests of differences in means between the two sub-samples of IPO firms with high CFO Career Concerns and those with low CFO Career Concerns are based on *t*-tests (the subsamples are based on the median of CFO career concerns). The number of observations for each variable is 1215 All variables are defined in Appendix A.

being promoted (internally) to the CEO position in the current IPO firm (6%).

Partitioning the sample using either the median of age (junior vs. senior CFO) or tenure (short vs long) reveals that both junior and short-tenured CFOs are more likely to enjoy superior career outcomes than senior and long-tenured CFOs, which is consistent with the idea that former group works harder and is associated with greater risk taking than the latter group. Nonetheless, the likelihood for being promoted externally seems to be relatively higher for CFOs with high aged-based career concerns (i.e., junior CFOs) compared to CFOs with severe tenure-based career concerns (i.e., new CFOs). Conversely, short-tenured CFOs are more likely to be promoted internally than young CFOs.

Panel B confirms the above patterns in a multivariate setting (using probit regressions). Taken together, these findings support the

Table 4
Can CFO career concerns around ipos predict future labor outcomes?

Panel A: Likelihood of Promotion

	From the IPO date to the CFO departure									
		Career Concerns			Age			Tenure		
	Full Sample (N = 1215)	High	Low	Diff.	Junior	Senior	Diff.	Short	Long	Diff.
	Mean	Mean	Mean	p-value	Mean	Mean	p-value	Mean	Mean	p-value
Promotion to CEO: Internal or External	0.17	0.18	0.15	0.0504	0.20	0.12	0.0006	0.18	0.14	0.0120
Promotion to CEO: Internal Only	0.06	0.08	0.05	0.0350	0.09	0.03	0.0000	0.13	0.04	0.0000
Promotion to CEO: External Only	0.11	0.15	0.06	0.0140	0.14	0.06	0.0209	0.12	0.08	0.0245

Panel B: Promotion Probabilities in a Multivariate Setting

	(1)	(2)	(3)	(4)
	CFO Promotion (Internal or External)		Internal CFO Promotion vs. External CFO Promotion	
CFO Age	0.004***		0.012**	
	(4.56)		(2.54)	
CFO Tenure	0.009**		0.048***	
	(2.15)		(3.56)	
CFO Career Concerns		0.004***		0.004**
		(4.97)		(2.10)
Control Variables	Y	Y	Y	Y
Industry & Year FE	Y	Y	Y	Y
Pseudo R^2	0.1350	0.0971	0.1565	0.1550
Number of Observations	1215	1215	207	207

This table presents descriptive statistics for future labor outcomes of the CFO for our sample of U.S. IPOs. We consider whether the CFO is internally promoted to the CEO position (in the same firm) or externally promoted as CEO (by another public or private firm) after departing from the current (IPO) firm. Descriptive statistics are presented in Panel A across the high and low CFO career concerns subsamples. Tests of differences in means between the two sub-samples of IPO firms are based on t-tests. Panel B reports results from probit regressions. The number of observations in each column depends on whether the CFO remains in the same firm or is hired by another (private or public) firm. Control variables in Panel B are the same as those discussed in Section 3.2. All variables are defined in Appendix A.

notion that: (i) career concerns based on tenure or age may influence the actions of CFOs during IPOs and their subsequent career progression and (ii) both age and tenure are valid proxies of career concerns, with tenure (age) is more likely to capture internal (external) career concerns. Whether the association between CFO career concerns and post-IPO labor outcomes can be attributed to conservative or opportunistic reporting practices during the IPO is an issue that we empirically explore in subsequent tests.

4.3. Baseline results: The relationship between CFO career concerns and IPO earnings management

Table 5 presents the results of our analysis regarding the association between CFO career concerns and various measures of EM, after controlling for various firm, CFO, and CEO characteristics that may influence the tendency of IPO firms to engage in earnings management. Across all specifications, the coefficient of CFO career concerns is negative and statistically different from zero. This finding supports the discipline view of CFO career concerns which suggests that CFOs with long expected tenure are less likely to hype the stock price through income increasing earnings management at the offering year than CFOs with short expected tenure.[16] In economic terms, an increase of one standard deviation in *CFO Career Concerns* (7.10) is associated, for instance, with a 2.84% (− 0.004 *x* 7.10) decrease in *Aggregate EM*, which in turn, translates to a 15.78% reduction relative to its mean (0.18).

Regarding the findings pertaining to other controls variables, the results show that past CFO financial experience is negatively related to EM. Corporate governance is significantly and negatively associated only with discretionary accruals. A possible explanation

[16] A comparison of the career concerns coefficients between the CFO and the CEO reveals that although both are generally negatively related to EM, the former is stronger in terms of statistical and economic significance. A possible explanation for this finding is that the responsibilities of the CFO are more closely related to financial reporting decisions and, as such, in our context, CFO career-related incentives may be more important than CEO career-related incentives. Prior studies reach at a similar conclusion when they consider compensation incentives (Chava and Purnanandam, 2010; Jiang et al., 2010). Another explanation is that because CFOs have generally longer decision horizons than CEOs (and hence more severe career concerns), they have strong incentives to push the CEO to focus on the firm's long-term goals as well as the means to accomplish this goal as the CEO's compensation is a function of their efforts inside the firm (Acharya et al., 2011). We elaborate on this explanation in the Internet Appendix.

is that boards of directors are more concerned with accruals manipulation than real earnings management. Also, the presence of venture capitalists, prestigious underwriters, and Big 4 auditors seems to restrain EM.[17]

4.4. Alternative definitions of CFO career concerns

In the main tests, we empirically defined career concerns using the sum of tenure and age of the CFO. However, this measure may be subject to several caveats. For example, tenure and age may have heterogeneous implications on the managers' decision horizon and their reporting behavior. A newly appointed CFO does not necessarily mean that he or she is young. Tenure is more about the horizon with the current employer or CEO, while age can be more about longer career in the entire labor market. Thus, a 40-year-old CFO who has been at the job might have a longer horizon than a 50-year-old who has been at the office for a decade. Separating the potential effects of age and tenure might provide greater insight into the role of career concerns. In addition, the relationship between CFO career concerns and IPO earnings management may not be linear. If, for any reason, both younger and older CFOs exhibit less earnings management than CFOs in the middle stages of their careers, then the relationship between CFO age and IPO earnings management could be non-monotonic (inverted U-shape).

To address these issues, we initially replace *CFO career concerns* with its components, *CFO Age* and *CFO Tenure*. Panel A of Table 6 shows that the economic effect of age and tenure on IPO earnings management is similar, suggesting that using their sum to capture CFO career concerns does not mask their heterogeneity in our baseline regressions.[18] Then, in Panel B of Table 6 we use either CFO career concerns or its components in the same regression along with their square terms. The results of Column (1) do not support the presence of non-linearities in our context, whereas the remaining columns suggest that both CFO age and CFO tenure have similar implications on IPO reporting quality and that they do not seem to be non-linearly related to the outcome variables.

5. Identification concerns

The results, so far, establish a negative association between CFO career concerns and earnings management. It is possible, however, that endogeneity issues may plague our empirical analysis. Specifically, our models may suffer from bias due to: i) omitted firm variables and/or CFO variables that affect both earnings management and the CFO career concerns of IPO firms in a similar manner, and ii) endogenous CFO-firm matching (i.e., non-random assignment of CFOs to the firms) due to observable distributional differences in firm and CFO characteristics between firms with high and low CFO career concerns. In the following subsections, we provide some evidence that allows us to address endogeneity concerns and obtain clear inferences.

5.1. Quasi-natural experiment

Although age and tenure are common proxies of career concerns (e.g., Pae et al., 2015; Baginski et al., 2018), these variables are determined endogenously through either self-selection or omitted correlated variables, making it difficult to draw clear inferences. To alleviate these endogeneity concerns, we resort to frictions in the labor market, and particularly, restrictions to the mobility of human capital. Human capital is a crucial asset for company productivity (Zingales, 2000). However, given the increasing reliance on skilled employees in recent decades (Donangelo, 2014), labor mobility poses a significant threat to companies. Acknowledging this, companies attempt to mitigate labor mobility risk by using noncompete agreements to forbid employees – particularly top executives, directors, and specialized technicians – from joining or forming a rival company for a specified period after leaving their former employers (Bishara et al., 2015). Non-compete covenants are widely used in employment contracts because they promote stability and are regarded as a key mechanism safeguarding employers' proprietary information and investment in human capital; yet, they have an unintended negative effect on the incentives of managers.

As Garmaise (2011) notes, stricter enforcement of noncompete provisions shrinks the supply and mobility of executives in the labor market, limiting their alternative employment opportunities and imposing higher job-switching costs. Increases in the enforceability of noncompete clauses can have a first-order effect on managers' career incentives since they motivate managers to take actions (i.e., to increase firm output or avoid reporting poor performance that could cause them to be dismissed) in order to secure their current jobs and enhance their outside labor market value (Jeffers, 2024). Thus, noncompete provisions have the potential to affect both internal (length of tenure within the firm) and external career concerns (the availability of alternative employment opportunities). Consistent with this idea, Graham et al. (2005) report that managers view labor market mobility as an important motivating factor, especially when it comes to financial reporting decisions.

Although most companies in the United States have non-competed clauses in the employment contracts of key employees, the enforcement of these agreements varies geographically, with some states enforcing them more vigorously than others, as their enforceability depends on state legislatures or court rulings of the state in which companies are headquartered. Hence, unlike conventional proxies of managerial career concerns, non-compete enforceability depends on state jurisdictions that are exogenous to the actions of individual firms or managers, thereby mitigating the concern of omitted correlated variables and allows us to better draw

[17] In untabulated analysis, we re-examine our main model by including the *Industry* × *Year* fixed effects to control for varying year-industry dynamics and find that our conclusions remain the same.

[18] Specifically, the economic importance of age is calculated as follows (see Column 3): $(-0.005 \times 7.01) = -3.51\%$. Similarly, the economic effect of tenure is: $(-0.008 \times 2.62) = -2.36\%$.

Table 5
The relationship between CFO career concerns and earnings management around IPOs.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AACC	AOCF	APROD	ADISEXP	REM1	REM2	Aggregate EM Index
CFO Career Concerns	−0.003***	−0.004***	−0.007*	−0.008***	−0.019***	−0.005***	−0.004***
	(−3.69)	(−5.10)	(−1.70)	(−2.95)	(−4.10)	(−4.20)	(−2.65)
CFO Gender	0.03	0.20*	−0.04	−0.16	−0.20	0.04	−0.15
	(0.65)	(1.85)	(−0.12)	(−1.07)	(−0.62)	(0.36)	(−1.03)
CFO MBA	−0.04*	−0.02	−0.04	0.09	0.05	0.08	0.07
	(−1.95)	(−1.26)	(−0.31)	(0.83)	(0.25)	(1.06)	(0.48)
CFO Qualified Accountant	0.06	−0.07***	−0.13	0.09*	−0.04	0.02	0.07
	(1.05)	(−2.98)	(−1.31)	(1.81)	(−0.26)	(0.24)	(0.84)
CFO Past Financial Experience	−0.01	0.02	−0.11**	−0.08***	−0.19***	−0.06*	−0.10***
	(−0.76)	(0.76)	(−2.41)	(−2.78)	(−3.28)	(−1.64)	(−3.88)
Total CFO Pay	−0.01	−0.03	−0.03	−0.07	−0.10	−0.10*	−0.07
	(−0.20)	(−1.26)	(−0.32)	(−1.29)	(−0.75)	(−1.98)	(−1.12)
CFO Ownership	0.33	−0.75**	−0.45	−0.72	−1.18	−1.35**	−0.55
	(0.25)	(−2.05)	(−1.25)	(−0.81)	(−1.35)	(−2.50)	(−1.45)
CEO Career Concerns	−0.002	0.002	−0.003	−0.006*	−0.005	−0.006**	−0.007
	(−0.59)	(0.59)	(−0.50)	(−1.69)	(−1.81)	(−2.36)	(−1.55)
CEO Gender	0.04**	0.05	0.12	−0.16	−0.03	−0.11***	−0.10
	(2.34)	(1.47)	(0.64)	(−0.55)	(−0.20)	(−4.29)	(−0.20)
CEO Duality	0.16	−0.12	−0.77	0.13	−0.64	0.01	−0.04
	(1.42)	(−0.83)	(−1.46)	(0.39)	(−0.88)	(0.04)	(−0.11)
Total CEO Pay	−0.03	0.01	−0.09**	−0.02	−0.11	−0.02	−0.05
	(−0.86)	(0.11)	(−2.11)	(−0.27)	(−1.04)	(−0.33)	(−0.62)
CEO Ownership	−0.01	0.01	0.02	−0.01	0.02	0.01	0.01
	(−0.38)	(0.25)	(0.16)	(−0.18)	(1.04)	(0.15)	(0.75)
Governance Quality	−0.02***	0.02	−0.06	−0.02	−0.08*	−0.03	−0.03*
	(−2.95)	(0.44)	(−1.42)	(−1.02)	(−1.65)	(−1.01)	(−1.77)
Leverage	0.03	−0.03	−0.11	0.06	−0.05	0.03	0.04
	(0.99)	(−0.52)	(−0.74)	(1.41)	(−0.27)	(0.37)	(0.97)
EPS	0.03	−0.23***	0.04	0.13	0.16	−0.11*	0.14
	(1.56)	(−6.07)	(0.63)	(1.58)	(0.99)	(−1.94)	(1.30)
Firm Age	−0.04	−0.06*	−0.13	0.02	−0.11	−0.04	−0.03
	(−1.22)	(−1.75)	(−1.51)	(0.43)	(−0.87)	(−1.44)	(−0.38)
Size	0.02	−0.17*	−0.16*	0.33***	0.16	0.16***	0.27***
	(0.56)	(−1.76)	(−1.80)	(4.097)	(1.23)	(3.26)	(3.49)
Lockup	−0.04	−0.11*	0.11	0.10	0.21	−0.02	0.12
	(−1.45)	(−1.84)	(0.64)	(0.85)	(0.74)	(−0.03)	(0.73)
VC	−0.06	−0.17	−0.04	−0.03	−0.07	−0.20**	−0.06
	(−1.26)	(−1.02)	(−0.18)	(−0.34)	(−0.39)	(−2.42)	(−0.73)
Underwriter	−0.02	−0.13**	−0.43**	−0.09	−0.52*	−0.22*	−0.21
	(−0.45)	(−2.05)	(−2.60)	(−0.43)	(−1.93)	(−1.69)	(−1.05)
Big 4 Auditor	−0.10	0.06	0.40**	−0.03	0.36**	0.02	0.05
	(−1.07)	(0.41)	(2.14)	(−0.31)	(2.37)	(0.42)	(0.56)
Technology	−0.02***	−0.20***	−0.25*	−0.12**	−0.37**	−0.32***	−0.19**
	(−2.25)	(−4.16)	(−1.98)	(−2.35)	(−2.34)	(−6.59)	(−2.43)
Internet	−0.05	−0.11***	−0.27*	−0.06	−0.33*	−0.17*	−0.15
	(−0.52)	(−4.92)	(−1.68)	(−0.76)	(−1.75)	(−1.88)	(−1.17)
Nasdaq	−0.02	0.03	−0.02	−0.04	−0.04	−0.02	−0.04
	(−0.30)	(0.67)	(−0.14)	(−0.74)	(−0.28)	(−0.03)	(−0.74)
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0853	0.2272	0.1367	0.2070	0.1472	0.1664	0.1822
Number of Obs.	1215	1215	1215	1215	1215	1215	1215

This table displays the relationship between CFO career concerns and various earning management (EM) measures using ordinary least square (OLS) regressions. The sample consists of initial public offerings from 2000 to 2017 in the US stock market. The dependent variables are AACC, AOCF, APROD, ADISEXP, REM1, REM2, and the Aggregate EM Index. T-statistics are included in the parentheses and are adjusted for heteroscedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

clearer inferences.

We exploit legal amendments of noncompete enforceability as a quasi-natural experiment to obtain exogenous variation to statewide labor market mobility. Building on the work of Garmaise (2011), we count the number of positive answers to twelve questions to construct an index of NCA enforceability at the state level (*NCA Enforceability*). We find that in our sample NCA ranges from 0 (e.g., California) to 9 (e.g., Florida). Higher NCA values imply greater enforceability of non-compete agreements in a given state, lower mobility of managers from that state, and a less active labor market. CFOs in states with stricter NCA enforceability face greater career concerns because they are under greater pressure to secure their jobs and minimize the risk of a forced turnover. They

Table 6
Alternative definitions of CFO career concerns.

Panel A: The Impact of CFO Age and Tenure on EM			
	(1)	(2)	(3)
CFO Age	−0.007***		−0.005***
	(−4.48)		(−5.40)
CFO Tenure		−0.012***	−0.009***
		(−3.17)	(−2.80)
Control Variables	Y	Y	Y
Industry FE	Y	Y	Y
Year FE	Y	Y	Y
Adjusted R^2	0.1844	0.1850	0.1848
Number of Obs.	1215	1215	1215

Panel B: Non-Linearity Tests				
	(1)	(2)	(3)	(4)
CFO Career Concerns	−0.007***			
	(−2.87)			
CFO Career Concerns^2	−0.001			
	(−1.60)			
CFO Age		−0.006***		−0.004***
		(−3.30)		(−2.85)
CFO Age^2		−0.002		−0.001
		(−0.50)		(−1.50)
CFO Tenure			−0.009***	−0.008**
			(−3.09)	(−2.45)
CFO Tenure^2			0.001	0.001
			(0.30)	(0.15)
Control Variables	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Adjusted R^2	0.1855	0.1747	0.1740	0.1748
Number of Obs.	1215	1215	1215	1215

This table displays the relationship between various definitions of CFO career concerns and IPOs EM using ordinary least square (OLS) regressions. The sample consists of initial public offerings from 2000 to 2017 in the US stock market. The dependent variable is the Aggregate EM Index. Panel A presents the impact of the components of CFO career concerns on the Aggregate EM Index, whereas Panel B reports the results from the non-linearity tests. Control variables are the same as in Table 5. T-statistics are included in the parentheses and are adjusted for heteroscedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

also find it costlier to find a new job after being replaced. In response, these CFOs will take actions to minimize the likelihood of a forced termination and enhance their outside employment opportunities. Whether these actions advance their personal interests at the expense of long-term profitability of their firms or not is, of course, an empirical matter, as discussed in our hypotheses.

Nonetheless, the effect of tightened enforcement of noncompete provisions on managers' career concerns should not be uniform across firms with different types of CFOs. Instead, it should become more binding on junior or new CFOs. These CFOs have yet to establish a personal reputation – either within or outside their firms – and generally face a heavier punishment from the stock market for underperforming or have more difficulties in finding out-of-state jobs. With fewer outside opportunities becoming available, they are more bound to their current employers and are likely to be more concerned about the costs imposed by non-compete agreements. Thus, they are compelled to react more strongly to increased noncompete enforcement.

Based on the preceding discussion, our cross-sectional prediction is that the effect of non-compete enforceability is more pronounced for IPOs with young or early tenured CFOs. To test this hypothesis, we add *NCA Enforceability* and the product of *NCA Enforceability* and *CFO Career Concerns* in our baseline regressions. We anticipate a negative coefficient on the interactive variable (*NCA Enforceability* × *CFO Career Concerns*) if the heightened career concerns induced by tightened NCA enforcement motivate CFOs to prioritize their long-term reputation over short-term myopic actions. Under this scenario, the discipline effect of CFO career concerns (i.e., CFOs who are young or have shorter tenures) is more pronounced in states with higher enforcement.[19] Panel A of Table 7

[19] Otherwise, the discipline effect of CFO career concerns on IPO earnings managements is weakened among firms with headquarters in high NCA states, in which case the coefficient on the interactive variable (*NCA Enforceability* × *CFO Career Concerns*) should be positive.

reports the results. We find that interacting NCA enforceability with CFO career concerns loads negatively in our regression models, which is consistent with the idea that tightened enforcement should have a stronger discipline effect on CFOs who lack an established track record. As a result, younger or short-tenured CFOs are relatively more conservative in preparing the financial reports of IPO firms and this is more likely be the case in states with tightened enforcement.[20]

We also use an indicator variable (*NCA Enforceability_Up*) which is equal to 1 for firms headquartered in states that have experienced an increase in NCA enforceability, and equal to 0 for firms that have not experienced a change in NCA enforceability (106 treated firms).[21] The resulting treated firms from this quasi-natural experiment are 106 out of 1215. We then interact the *NCA Enforceability_Up* with *CFO Career Concerns*. CFOs in states with increased enforceability are subject to greater career concerns.[22] Panel B of Table 7 reports the results of this analysis. In line with the results of Panel A, we report a negative coefficient on the interactive variable *NCA Enforceability_Up* × *CFO Career Concerns*, suggesting that increases in the enforceability strengthen the negative discipline effect of CFO career concerns on our measures of earnings management.

Recent studies in econometrics and finance suggest that the frequent use of already-treated firms as control in staggered difference-in-difference (DiD) applications can lead to biased results due to the presence of the heterogeneous treatment effects or variation in treatment timing (Baker et al., 2022; Barrios, 2021; Goodman-Bacon, 2021; Sun and Abraham, 2021). This issue is relevant in our context since the timing of the treatment effect of enhanced or weaker enforceability is rolled out in a staggered way and because it might vary across a long sample period.

To assess the influence of potential bias, we perform two robustness checks using the following two alternative estimators suggested by Baker et al. (2022): (1) the stacked regression estimator (Cengiz et al., 2019) and (2) the Callaway and Sant'Anna (2021) estimator. We use all observations from before and after treatment. In these estimations the control groups are "clean" in the sense that the set of control firms are either not treated at all or not-yet-treated (Krueger et al., 2024). The results of these tests are reported in Panel C of Table 7 and show that the interaction between *NCA Enforceability_Up* and *CFO Career Concerns* remains negative. These results affirm that our main findings remain robust even after the treatment effect heterogeneity is accounted for and provide further evidence supporting the moderating role of NCA on the impact of CFO career concerns on the reporting quality of IPOs.

5.2. Entropy balancing

CFOs and firms are not matched randomly. For example, it may be the case that firms that do not systematically engage in earnings manipulation tend to hire CFOs who are long-term oriented in their decision-making process. For instance, CFOs with high career concerns tend to work in less mature firms (Panel B of Table 2). Hence, we need to ensure that our results are not driven by such tendencies, and particularly, distributional differences in observable CFO and firm characteristics between firms with CFOs facing high career concerns versus firms with CFOs firms facing low career concerns. In doing so, we utilize a robust multivariate matching technique known as entropy matching and weight each observation such that post-weighting distributional properties of treatment (CFOs with high career concerns) and control (CFOs with low career concerns) samples are equal, thereby ensuring covariate balance (Hainmueller, 2012; Chapman et al., 2019; Gounopoulos et al., 2021; Lennox and Payne-Mann, 2023).[23] Unlike traditional matching techniques, entropy balancing preserves the entire sample, thus retaining information and improving model efficiency.

Panel A of Table 8 displays difference-in-difference means of the control variables for firms managed by CFOs with high versus low career concerns *after* employing entropy balancing. The results show that the corresponding difference-in-difference means are not statistically significant, indicating that the entropy balancing approach succeeds in making the sample of firms with high CFO career concerns comparable to the sample with low CFO career concerns. Using this approach, we next run the same regressions as in Table 5 and find that the results using the entropy-balanced control sample are in line with those of our baseline findings (Panel B of Table 8).[24]

6. Cross-sectional analysis

So far, our results suggest that the interest alignment scenario dominates the managerial myopia scenario for the typical CFO. Because these two views provide competing incentives which vary significantly across firms, we expect the relationship between CFO

[20] In the Internet Appendix, we repeat the above analysis after replacing CFO career concerns with its components, CFO age and CFO tenure. We find that the economic effect of the interacting CFO age with NCA Enforceability (*NCA Enforceability* × *CFO Age*) is larger than the economic effect of interacting CFO tenure with NCA Enforceability (*NCA Enforceability* × *CFO Tenure*), consistent with the idea that CFO age capture concerns about outside employment opportunities whereas CFO age capture concerns about inside employment opportunities (Section A4 of the IA).

[21] Specifically, *NCA Enforceability_Up* takes the value of 1 for firms located in Louisiana after 2003, in Texas for the period 2007–2009, in Kentucky for the period 2007–2014, in Idaho and Oregon after 2008, in Wisconsin after 2009, in Texas after 2010, in Colorado, Georgia, and Illinois after 2011, and in Virginia after 2013.

[22] We also control for state-level economic and labor market conditions by using GDP, unemployment rate and personal income. Finally, to address the concern that the error terms in this state-level research design may be autocorrelated within states, we cluster the standard errors by state (Garmaise, 2011).

[23] The sample partition is based on the sample median of the variable CFO career concerns.

[24] In Section A3 of the Internet Appendix, we also adopt an instrumental variable regression.

Table 7
Effect of CFO career concerns on IPO earnings management —quasi-natural experiment.

Panel A: The Impact of CFO Career Concerns on EM using NCA Enforceability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AACC	AOCF	APROD	ADISEXP	REM1	REM2	Aggregate EM Index
CFO Career Concerns	−0.009**	0.005	−0.001	−0.019**	−0.019*	−0.014***	−0.020**
	(−2.01)	(1.05)	(−0.85)	(−2.40)	(−1.68)	(−3.40)	(−2.05)
NCA Enforceability	0.105	0.003	0.041	0.050*	0.091	0.046	0.064
	(1.45)	(0.28)	(1.41)	(1.77)	(1.23)	(1.40)	(1.10)
CFO Career Concerns × NCA Enforceability	–	–	–	−0.005***	–	−0.003**	−0.005**
	0.001**	0.002*	0.003**	(−2.80)	0.003**	(−2.50)	(−2.03)
	(−2.05)	(−1.86)	(−2.31)		(−2.20)		
Control Variables	Y	Y	Y	Y	Y	Y	Y
Industry & Year FE	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0961	0.2318	0.1401	0.2276	0.1647	0.1897	0.2032
Number of Observations	1215	1215	1215	1215	1215	1215	1215

Panel B: The Impact of CFO Career Concerns on EM using Increases in NCA Enforceability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AACC	AOCF	APROD	ADISEXP	REM1	REM2	Aggregate EM Index
CFO Career Concerns	−0.004**	−0.004**	−0.003	−0.002*	−0.005*	−0.006***	−0.004**
	(−2.25)		(−1.40)	(−1.72)	(−1.75)		(−2.46)
NCA Enforceability_Up	0.496	0.531	−0.545**	−0.919	−0.785***	−0.388	−0.639*
	(1.62)	(1.28)	(−2.45)	(−1.20)	(−3.39)	(−0.74)	(−1.94)
CFO Career Concerns × NCA Enforceability_Up	−0.009**	−0.007*	−0.057**	−0.015*	−0.73***	−0.006**	−0.027*
	(−2.01)	(−1.80)	(−2.40)	(−1.85)	(−3.00)	(−2.05)	(−1.80)
Control Variables	Y	Y	Y	Y	Y	Y	Y
Industry & Year FE	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0769	0.2117	0.1343	0.1984	0.1438	0.1556	0.1758
Number of Observations	1201	1, 201	1, 201	1, 201	1, 201	1, 201	1, 201

Panel C: Alternative Estimators

	Aggregate EM Index	
	Stacked Regression	Callaway & Sant'Anna Estimator
	(1)	(2)
CFO Career Concerns	−0.021***	−0.018***
	(−3.10)	(−3.35)
NCA Enforceability_Up	−0.245	−0.380
	(−0.60)	(−0.95)
CFO Career Concerns × NCA Enforceability_Up	−0.004**	−0.003**
	(−2.10)	(−2.02)
Control Variables	Y	Y
Industry, Year, & State Fixed Effects		Y
Stack Fixed Effects	Y	

This table presents the association between CFO career concerns and EM after employing a quasi-natural experiment. Panel A (B) displays the impact of CFO career concerns on EM using a district index (increases) of NCA enforceability. Panel C reports the estimates using the stacked regression approach and the Callaway and Sant'Anna (2021) estimator. We use all observations from before and after treatment. The control group in these regressions are never treated and not-yet treated firms. Control variables are the same as in Table 5. T-statistics are included in the parentheses and are adjusted for heteroscedasticity robust standard errors clustered by year and state. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Table 8
Entropy balancing approach.

Panel A: Differences in Observables (covariates) after Entropy Balancing

	Mean Treated	Mean Control	Diff.	Variance Treated	Variance Control	Diff.	Skewness Treated	Skewness Control	Diff.
Covariates									
CFO Gender	0.90	0.90	0.00	0.08	0.08	0.00	−2.68	−2.68	0.00
CFO MBA	0.34	0.34	0.00	0.23	0.23	0.00	0.64	0.64	0.00
CFO Qualified Accountant	0.38	0.38	0.00	0.23	0.23	0.00	0.50	0.50	0.00
CFO Past Financial Experience	0.07	0.07	0.00	0.83	1.09	−0.26	0.24	0.20	0.04
Total CFO Pay	$590,281	$590,303	−0.22	$1,755,000	$2,220,000	$-465,000	8.10	5.40	2.70
CFO Ownership	0.007	0.007	0.00	0.004	0.003	0.001	9.30	8.20	1.10
CEO Career Concerns	−52.61	−52.61	0.00	90.75	89.60	1.15	−0.79	−0.59	−0.20
CEO Gender	0.90	0.90	0.00	0.09	0.09	0.00	−2.65	−2.65	0.00
CEO Duality	0.58	0.58	0.00	0.24	0.24	0.00	−0.33	−0.33	0.00
CEO Ownership	7.84	7.84	0.00	92.40	92.40	0.00	3.23	3.27	−0.04
Total CEO Pay	$1,350,556	$1,350,556	0.00	$5,180,000	$5,220,000	$-40,000	5.30	6.20	−0.90
Governance Quality	−0.01	−0.01	0.00	2.21	2.33	−0.12	−1.11	−1.06	−0.05
Leverage	0.38	0.38	0.00	0.19	0.17	0.02	2.31	2.26	0.05
EPS	0.42	0.42	0.00	0.24	0.24	0.00	0.31	0.31	0.00
Firm Age	13.5	13.5	0.00	140	180	−40	2.97	3.03	−0.06
Size	$497.1	$497.1	0.00	$1,630,040	$1,520,700	$109,340	6.50	5.90	0.60
Lockup	0.83	0.83	0.00	0.14	0.14	0.00	−1.78	−1.78	0.00
VC	0.54	0.54	0.00	0.25	0.25	0.00	−0.17	−0.17	0.00
Underwriter	0.75	0.75	0.00	0.19	0.19	0.00	−1.13	−1.13	0.00
Big 4 Auditor	0.83	0.83	0.00	0.14	0.14	0.00	−1.73	−1.73	0.00
Technology	0.36	0.36	0.00	0.23	0.23	0.00	0.52	0.52	0.00
Nasdaq	0.70	0.70	0.00	0.14	0.14	0.00	−1.75	−1.75	0.00

Panel B: The Relationship between CFO Career Concerns and IPO Earnings Management after Entropy Balancing

	(1) AACC	(2) AOCF	(3) APROD	(4) ADISEXP	(5) REM1	(6) REM2	(7) Aggregate EM Index
CFO Career Concerns	−0.017**	−0.003*	−0.018*	−0.018***	−0.037***	−0.015***	−0.027***
	(−2.42)	(−1.90)	(−1.68)	(−2.68)	(−2.65)	(−2.85)	(−3.17)
Control Variables	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.1111	0.2307	0.0971	0.2118	0.1432	0.1552	0.1943
Number of Obs.	1215	1215	1215	1215	1215	1215	1215

This table conducts our entropy balancing matching estimation that ensures better covariate balance between treatment (high CFO Career Concerns) and control (low CFO Career Concerns) groups by weighing observation such that the post-weighing treated and control samples are equal along the mean, variance, and skewness. Panel A presents the differences in observables after employing entropy balancing, whereas Panel B reports the effect of CFO Career Concerns on EM after entropy balancing. Control variables in Panel B are the same as in Table 3. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

career concerns and earnings management around IPOs to vary predictably in the cross-section. One channel that might explain when CFOs with career concerns during IPOs behave more or less conservatively is labor market discipline (Fama, 1980).[25] We expect this disciplining effect to be stronger under the presence of contract devices explicitly designed to discourage earnings management associated with career concerns or litigation penalties related to financial misconduct (Baginski et al., 2018). Another channel which could also influence the incentives of CFOs with career concerns is the pressure from pre-IPO shareholders to inflate earnings. We predict that CFOs with greater career concerns are more likely to resist such pressures.

6.1. The role of severance pay packages

Severance pay agreements specify in advance the composition and amount of pay an executive will receive in the event of leaving a firm voluntarily for "good reason" or of being terminated "without cause" (Brown, 2015). Consistent with the idea that severance agreements are designed, in part, to provide managers with insurance for their human capital (by increasing the cost of replacement

[25] Consistent with this idea, previous studies show that managers who have yet to establish a personal reputation are more susceptible to forced turnovers based on poor performance due to a lack of solid track record, whereas more experienced managers are less susceptive to termination for temporary poor performance (Gibbons and Murphy, 1992; Hermalin and Weisbach, 1998).

and lowering the termination cost in the event of dismissal), previous studies find that contracted severance pay is higher if an executive has shorter tenure or is farther from retirement age (Brown, 2015; Cadman et al., 2016). However, this contracting devise provides legal grounds for shareholders to withhold severance pay if the manager was fired for cause, (i.e., when undertaking actions that are harmful to the company). Thus, if a CEO with a severance agreement engages in egregious earnings management and is caught, he or she will risk not only being involuntary dismissed but also losing a substantial portion of compensation (Brown, 2015). The ex-ante threat of such forfeiture *curbs* managers' aggressive financial reporting choices.

Likewise, severance pay reduces the incentives to cheat because it makes the exit option attractive enough to encourage truth-telling, so that a CEO will reveal bad news even if he/she knows that she or he will be fired because of this. The insurance effect provides managers with incentives to choose between managing earnings and keeping their job or reporting truthfully and leaving the firm with severance pay. This form of compensation reduces the cost of termination to the executive in the event of a bad outcome. As such, this insurance effect discourages managers to engage in earning management in the hope of retaining of their jobs.

How severance pay agreements might affect the reporting behavior of young or short-tenured CFOs during IPOs? If the incentives of CFOs with severance pay contracts are dominated by the fear of being fired for cause and hence the forfeiture of severance, these CFOs would have lower incentives to manage earnings. This reasoning implies a negative relationship between severance pay and IPO earnings management which is likely to be stronger for CFOs longer expected career horizons. In addition, young or early tenure CFOs may need additional insurance from a severance agreement because they have a greater proportion of lifetime earnings at risk (Brown, 2015; Cadman et al., 2016). In this case, either due to the forfeiture effect or the insurance effect, the discipline role of severance pay on IPO earnings management should be more pronounced among CFOs with greater career concerns.

To examine these conjectures, we add to our baseline model *Severance Pay* and the interactive variable *Severance Pay* × *CFO Career Concerns*. Consistent with our expectations, Panel A of Table 9 indicates that severance pay relates to lower earnings

Table 9
Cross-sectional analysis.

Panel A: Severance Pay Agreements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AACC	AOCF	APROD	ADISEXP	REM1	REM2	Aggregate EM Index
CFO Career Concerns	−0.008	−0.006	−0.004	−0.006*	−0.002	−0.001	−0.009
	(−1.31)	(−1.40)	(−1.20)	(−1.78)	(−1.48)	(−1.30)	(−0.20)
Severance Pay Contract	−0.74**	−0.15*	−0.95**	−0.72*	−1.68*	−0.57***	−0.40***
	(−2.31)	(−1.85)	(−2.37)	(−1.86)	(−1.70)	(−2.85)	(−4.30)
CFO Career Concerns × Severance Pay Contract	–	–	−0.005*	−0.011**	–	–	−0.016**
	0.015**	0.003*			0.015*	0.007***	
	(−2.00)	(−1.85)	(−1.91)	(−2.04)	(−1.78)	(−3.30)	(−2.05)
Control Variables	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0903	0.2271	0.1514	0.2071	0.1601		0.1910
Number of Observations	919	919	919	919	919	919	1215

Panel B: Litigious Industries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AACC	AOCF	APROD	ADISEXP	REM1	REM2	Aggregate EM Index
CFO Career Concerns	–	−0.003**	−0.011*	−0.006***	–	−0.002*	−0.007*
	0.001*	(−2.00)	(−1.76)	(−2.86)	0.017*	(−1.80)	(−1.80)
	(−1.75)				(−1.78)		
Litigious Industries	0.22	0.80	0.40	0.43	0.83	0.37	0.04
	(1.13)	(1.45)	(0.51)	(0.97)	(0.73)	(0.98)	(0.40)
CFO Career Concerns × Litigious Industries	–	–	−0.009*	−0.007**	–	–	−0.011**
	0.004*	0.013***	(−1.98)	(−2.10)	0.016*	0.005**	(−2.15)
	(−1.95)	(−3.22)			(−1.84)	(−2.03)	
Control Variables	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0858	0.2340	0.1370	0.2056	0.1475	0.1655	0.1825
Number of Observations	919	919	919	919	919	919	1215

This table presents the results on the moderating role of severance pay agreements and litigation risk on the association between CFO Career Concerns and EM. Panel A presents the results using severance pay contracts to create the interactive effects, whereas in Panel B, we use litigious industries to create the interactive effects. Control variables are the same as in Table 5. T-statistics are included in the parentheses and are adjusted for heteroscedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

management, whereas the negative coefficient of the *Severance Pay* × *CFO Career Concerns* suggests that the severance pay effect is stronger for recent hires or young CFOs.

6.2. The role of litigation considerations

We also argue that the cost of getting caught for wrongdoings is higher when there is strict monitoring. While top managers' concerns about market's assessment of their abilities are high if they lack established track records, these concerns would also be magnified when they are more closely monitored. To capture how litigation risk affects the behavior of CFOs with severe career concerns, we consider whether their firm operates in a litigious industry (Francis et al., 1994). We anticipate that when litigation risk is elevated, managers have strong motives to avoid actions that would attract unwanted attention by gatekeepers, such as auditors or regulators. If this is true, the negative relationship between CFO career concerns and IPO earnings management should be stronger in more litigious industries.

In Panel B of Table 9, we examine the above predictions. In doing so, we add *Litigious Industries* which is a dummy variable indicating whether the firm operates in a litigious industry. We then consider how its influence varies for managers with more severe job concerns by introducing the interactive variable *Litigious Industries* × *CFO Career Concerns*. The results reported in Panel B of Table 9 show that the coefficient on *Litigious Industries* is positive, suggesting a direct effect on IPO earnings management. Importantly, the negative coefficient on *Litigious Industries* × *CFO Career Concerns* implies that the discipline effect of litigation risk is more pronounced among CEOs with greater career horizons. Collectively, these cross-sectional variations do not only shed more light on the underlying mechanism through which career-related incentives affect the reporting quality of IPO but also support our hypothesis that the actions of CFOs subject to serious career concerns are more likely to be driven by labor market discipline rather than managerial myopia.

6.3. The role of selling incentives

As mentioned earlier, the period around the IPO is characterized by two distinct events: the raising of capital at the time of the IPO and the exit by pre-IPO shareholders around the lockup expiration date. Firms may inflate earnings to hype the stock price and maximize the IPO proceeds, but they might also overstate reported earnings in anticipation of the expiration of lockup agreements. Lockup agreements are voluntary contracts between the underwriter and pre-IPO shareholders that restrict the ability of the latter to sell their shares for a specified period after the offering (Ertimur et al., 2014). While lockups are typically perceived as means to reduce information asymmetry between pre-IPO owners and new but less informed investors, Sletten et al., 2018 show that they can create perverse incentives when they expire, because pre-IPO shareholders can exploit the information asymmetry by inflating earnings and selling shares at a more beneficial price.[26]

If income increasing earnings management prior to the lockup expiration can benefit pre-IPO shareholders, a legitimate question is whether CFOs are obliged with such practices. Sletten et al. (2018) argue that executives are unlikely to inflate earnings for personal benefit because of particularly high litigation risk associated with "pumping and dumping". However, they note that large, pre-IPO shareholders, such as angel investors, private equity firms, and venture capitalists, can exploit the influence of their ownership stakes and board seats to shape the career trajectory of top executives, and hence, force them to take actions that benefit these influential shareholders.

In deciding whether to engage in income-increasing practices, CFOs trade off the benefits of ceding to pressures from pre-IPO owners against the costs of detection and potential damage on their reputation and future career. Therefore, we do not expect earnings management in anticipation of lockup expiration to be uniformly pervasive. Instead, it is likely that CFOs with greater career concerns to exhibit resistance to such pressures than CFOs with weak career concerns because have they longer expected career horizons, and as such, a greater proportion of their lifetime reputation and earnings at risk if they are caught for wrongdoings (Florackis and Sainani, 2021). In other words, we predict that the costs of succumbing to pressures to overstate reported earnings are more likely to outweigh the associated benefits for CFOs with severe career concerns compared to CFOs with low career concerns.

To test this possibility, we consider only firms with lockup agreements (85% of our sample: 1033 firms). Then, for each IPO we identify its lockup expiration date and find that 64% of the lockups fall in the fiscal year of the IPO, 33% in the quarter following the IPO, and the remaining in the following quarters. Recognizing that the announcement date about the IPO fiscal year earnings typically falls in the quarter following the IPO fiscal year-end date, we want to ensure that the selling incentives driven by the lockup expiration can have a meaningful impact on the financial reporting practices of IPO issuers during the fiscal year of the offering. In doing so, we restrict our sample to firms whose lockup expiration date falls either in the IPO fiscal year or into the following quarter.[27]

To proxy for the intensity of pre-IPO shareholders motives to inflate IPO fiscal year reported earnings, we use an *ex-ante* measure of selling incentives (*Selling Incentives*), based on model proposed by Field and Hanka (2001). This measure is captured by the predicted abnormal trading volume upon lockup expiration. The IPO literature considers abnormal trading volume shortly after the lockup

[26] Prior studies report that, following the lockup expiration, trading volume increases permanently by 40%, on average, reflecting a significant reduction of ownership by pre-IPO shareholders (e.g., Field and Hanka, 2001). Because selling gains of pre-IPO shareholders depend on the stock price around the lockup expiration, the large scale selling by pre-IPO shareholders provides incentives for firms to manage earnings in anticipation of the lockup expiration.

[27] Sletten et al. (2018) show abnormal accruals in the IPO year are at least partly driven by selling incentives created by lockup expiration.

period as arising from the sales by pre-IPO shareholders, and hence, as an appropriate proxy for selling incentives (e.g., Field and Hanka, 2001; Ertimur et al., 2014; Sletten et al., 2018). Using the predicted abnormal trading instead of realized abnormal trading alleviates concerns about the potential endogenous relation between earnings management and post-lockup-expiration sales. Details about the estimation of this variable can be found in Section A2 of the Internet Appendix.

We predict a positive relationship between the intensity of selling incentives (*Selling Incentives*) and earnings management at the issue year (Ertimur et al., 2014). In addition, to the extent that CFOs subject to severe career concerns are more likely to resist pressures from pre-IPO shareholders to manage earnings upwards than CFOs with weak career concerns, we anticipate that the positive effect of pre-IPO shareholders' selling incentives on EM will be less pronounced (weaker) among firms led by CFOs with high career concerns. Thus, besides the direct positive effect of *Selling Incentives* on IPO earnings management, we also expect a negative coefficient on the interactive variable *Selling Incentives* × *CFO career concerns*.

The results presented in Table 10 confirm our expectations. We initially find a positive association between pre-IPO shareholder selling incentives and our measures of earnings management, which is consistent with Ertimur et al. (2014) showing that selling incentives positively relate to bad news hoarding in anticipation of the lock-up period. Importantly, the coefficient on *Selling Incentives* × *CFO career concerns* is negative and statistically significant, supporting the hypothesis that CFOs with greater career concerns are less likely to succumb to pressures from pre-IPO shareholders to overstate reported performance. Overall, the above findings indicate that the moderating effects of severance agreements, litigation risk, and pressures from influential pre-IPO shareholders are important considerations for better understanding the implications of CFO career concerns around IPOs.

7. Path analysis

Our previous analyses reveal a strong and negative link between CFO career concerns and IPO earnings management. These findings are consistent with our interest alignment hypothesis and suggest that, when conducting an IPO, CFOs facing pressure from career concerns are particularly worried about the future reversal of upwards earnings management at the issue year. As such, to the extent that they want to maintain and enhance their reputation capital in the labor market, they will adopt conservative reporting strategies at the IPO year to ensure that the firm will not underperform in the future. This reasoning suggests that CFOs subject to severe career concerns are associated with less aggressive at-issue earnings management than their counterparts, which in turn, leads to superior post-IPO performance, and possibly, greater success in the labor market. Alternatively, these CFOs may exercise their accounting discretion to increase the informativeness of the reported earnings, thereby increasing their persistence and predictability of future performance and firm value. Both of these scenarios suggest that CFO career concerns may affect post-IPO firm and labor market success directly as well as indirectly through its influence on the quality of earnings at the issue year.

To test this conjecture, we rely on recursive (unidirectional) path analysis to examine and better understand the mechanisms through which CFO career concerns influence IPO success and future employment outcomes. Specifically, we estimate a structural equation model that decomposes the relationship between CFO career concerns (the source variable) and post-IPO firm performance and CFO career advancement (*CFO Promotion*) (the outcome variables) into a direct path as well as an indirect path through a mediating variable that proxies for the firm's earnings quality (*Aggregate EM Index*).

A direct path includes only one path coefficient, while an indirect path includes a path coefficient between the source variable and the mediating variable and a path coefficient between the mediating variable and the outcome variable. The total magnitude of the indirect path is the product of these two path coefficients. All variables are standardized in the model with a mean of zero and a standard deviation of one, allowing comparison of the magnitudes of the coefficients.

Path analysis has been extensively used in prior accounting and finance research to examine the mediation effect of a source variable on an outcome variable (e.g., DeFond et al., 2016; Hilary et al., 2016; Al Guindy, 2021; Biddle et al., 2024). Following these prior studies, we estimate the system of equations below:

$$Aggregate\ EM\ Index_i = a_0 + a_1\ CFO\ Career\ Concerns_i + Controls_i + FE + \varepsilon_i \tag{2a}$$

$$IPO\ Success_i = \beta_0 + \beta_1\ CFO\ Career\ Concerns_i + \beta_2\ Aggr.EM\ Index_i + Controls_i + FE + \varepsilon_i \tag{2b}$$

$$CFO\ Promotion_i = \gamma_0 + \gamma_1 CFO\ Career\ Concerns_i + \gamma_2 Aggr.EM\ Index_i + Controls_i + FE + \varepsilon_i \tag{2c}$$

We use the Aggregate EM Index to proxy for the IPO financial reporting quality. We also capture IPO success using the average Tobin's Q based on the three-year period following the IPO. CFO promotion is a dummy variable indicating whether the incumbent CFO has been promoted to the CEO position (in the same or another firm). In this framework, the product of the standardized coefficients ($a_1 \times \beta_2$) measures the mediated effect from CFO career concerns to IPO success through earnings quality. Likewise, the product of the standardized coefficients ($a_1 \times \gamma_2$) measures the mediated effect from CFO career concerns to CFO promotion through earnings quality. Using these numerical products, we compare the extent to which career-related incentives and at-issue earnings quality affect future IPO or managerial success. The statistical significance of the mediating effects is assessed by using Sobel's (1982) statistics. The path coefficients β_1 and γ_1 are the magnitude of the direct path from CFO career concerns to post-IPO operating performance and employment success, respectively.

Table 11 reports the results. The regression coefficients suggest that CFO career concerns have a significant both direct and indirect effect on firm value and CFO career advancement (CFO promotion) through the earnings quality of IPO reports. Overall, the path analysis shows that CFO career concerns enhance the firm's reporting environment, which in turn, lead to higher valuation premiums in the after-market and increase their employment opportunities.

Table 10
Earnings management and CFO career concerns around lockup expiration: the role of selling incentives.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AACC	AOCF	APROD	ADISEXP	REM1	REM2	Aggregate EM Index
CFO Career Concerns	−0.007***	−0.001*	−0.007*	−0.007*	−0.015*	−0.007**	−0.011*
	(−3.61)	(−1.69)	(−1.76)	(−1.97)	(−1.72)	(−2.01)	(−1.85)
Selling Incentives	0.050**	0.130***	0.091*	0.140*	0.050*	0.009*	0.119*
	(2.16)	(3.77)	(1.75)	(1.70)	(1.80)	(1.68)	(1.86)
CFO Career Concerns × Selling Incentives	−0.051**	−0.002*	−0.002*	−0.002**	−0.001*	−0.001*	−0.001*
	(−2.16)	(−1.80)	(−1.96)	(−2.01)	(−1.70)	(−1.78)	(−1.69)
Control Variables	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0964	0.2272	0.1449	0.2141	0.1589	0.1737	0.1938
Number of Observations	919	919	919	919	919	919	919

This table presents the results on the role of Selling Incentives on the association between CFO Career Concerns and Earnings Management. Selling Incentives is defined as the predicted abnormal trading volume around the lockup expiration date and proxies the incentives from pre-IPO shareholders to inflate reported earnings in anticipation of lockup (Sletten et al., 2018). Control variables are the same as in Table 3. T-statistics are included in the parentheses and are adjusted for heteroscedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Table 11
Path analysis.

Direct path	**(1)**	**Direct path**	**(2)**
p(CFO Career Concerns, Post-IPO Performance)= β_1	0.004** (2.45)	p(CFO Career Concerns, CFO Promotion)= γ_1	0.159*** (4.58)
Mediated Path for the Aggregate EM Index		**Mediated Path for the CFO Promotion**	
p(CFO Career Concerns, Aggregate EM Index)= a_1	−0.041*** (−2.90)	p(CFO Career Concerns, Aggregate EM Index)= a_1	−0.070** (−2.08)
p(Aggregate EM Index, Post-IPO Performance)= β_2	−0.051** (−2.15)	p(Aggregate EM Index, CFO Promotion)= γ_2	−0.008** (−2.01)
Total Mediated Path for Aggregate EM Index ($=a_1 \times \beta_2$)	0.002091** (2.40)	**Total Mediated Path for CFO Promotion ($=a_1 \times \gamma_2$)**	0.00056*** (2.70)
Controls (from the primary model)	Y	Controls (from the primary model)	Y
Industry FE	Y	Industry FE	Y
Year FE	Y	Year FE	Y
Number of Observations	830	Number of Observations	1215

This table reports the results from a path analysis that examines the effect of CFO Career Concerns on Post-IPO Performance and CFO Promotion through a direct link and a link mediated by the Aggregate EM Index. Post-IPO performance is defined as the ratio of market value of assets to book value of assets and averaged over the next three years after the IPO. We only report the path (standardized) coefficients (p) of our variables of interest. Control variables are the same as in Table 5. There are fewer observations in the first column due to data limitations and post-IPO delistings. In particular, the number of IPOs drops as some of these firms are delisted or merged or due to lack of financial information about these firms on Compustat. T-statistics are included in the parentheses. We report t-statistics based on robust standard errors adjusted for industry-level clustering. The significance of the indirect effect is estimated using the Sobel (1982) test statistics. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

8. Conclusion

Managers at early stages of their career tend to have stronger incentives to build strong records of accomplishments and establish themselves with their boards and shareholders, and these incentives are likely to influence their financial reporting decisions. While a substantial body of research is dedicated to understand the impact of top managers' career concerns on reporting decisions, the evidence on the role of career related incentives of CFOs is scant. The purpose of this study is to investigate the impact of career concerns on earnings management around IPOs, a setting which provides strong incentives and opportunities to engage in opportunistic reporting.

We document that CFOs facing high career concerns are less likely to engage in upward earnings manipulation. Our findings are robust to tests exploiting exogenous variation to managerial career concerns. Importantly, the negative relationship between CFO career concerns and at-issue earnings management becomes more pronounced when managers face greater (reputation, litigation, and job status) penalties associated with distorted financial reports. In addition, career concerns make CFOs more resistant to pressure from pre-IPO shareholders to inflate the earnings. Finally, we find that the role of CFO career concerns is not short-lived; rather, it extends to long-term outcomes, such as the IPO's viability in the aftermarket and the manager's future progression in the labor market. Overall, the findings add to the literature exploring the impact of managerial career concerns on corporations.

CRediT authorship contribution statement

Dimitrios Gounopoulos: Writing – review & editing, Supervision, Methodology, Formal analysis, Data curation,

Conceptualization. **Georgios Loukopoulos:** Writing – original draft, Validation, Methodology, Formal analysis, Data curation, Conceptualization. **Panagiotis Loukopoulos:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Formal analysis, Data curation, Conceptualization. **Yu Zhang:** Writing – original draft, Methodology, Data curation.

Data availability

The authors do not have permission to share data.

Appendix A. Definitions of variables

Variable	Definition
Panel A: CFO Variables	
CFO Age	Age of CFO (in years). When conducting regression analysis, we multiply this variable with negative one.
CFO Tenure	Number of years working as CFO in the firm until the IPO. When conducting regression analysis, we multiply this variable with negative one.
CFO Career Concerns	*CFO Career Concerns*$_{i,t} = (TENURE_{i,t} + AGE_{i,t}) \times (-1)$, where $TENURE_{i,t}$ is the number of years the CFO has held that position prior to IPO, $AGE_{i,t}$ is the age of the CFO who works for firm i in year t. We multiply this variable by negative one for our regressions. High and low career concerns are based on the sample median.
CFO Gender	Dummy variable equal to one if the CFO is male, and zero otherwise.
CFO MBA	Dummy variable equal to one if the CFO is holder of an MBA degree, and zero otherwise.
CFO Qualified Accountant	Dummy variable equal to one if the CFO is qualified accountant, and zero otherwise.
No. Roles	Number of financial and accounting related roles that the CFO holds in their past work history.
No. Firms	Number of firms in which the CFO has past financial experience.
CFO Past Financial Experience	It is constructed by taking the first factor of applying principal component analysis to the following variables: No. Roles and No. Firms.
Total CFO Pay	The natural logarithm of the sum of cash-based compensation, equity-based compensation, and other compensation (i.e., miscellaneous general and administrative costs, etc.). Cash-based compensation is the sum of salary and bonus. Equity-based compensation is calculated as the sum of the reported or estimated value of restricted shares and the stated option value or [the number of options granted × estimated call option value]. Because the value of options is not provided in the prospectus before 2006 (pre-FAS123R), following Chua and Nasser (2016), we also estimate the pre-IPO option grants for these IPOs to estimate the option value. To estimate the option value, we assume that the strike price for the pre-IPO options is the offer price. We further assume that the offer price is the underlying asset price on the premise that the executives have knowledge of the impending public offering and expected offer price. To estimate the volatility of the underlying asset, we calculate the prior year's equally weighted volatility of all listed stocks in the firms' industry using Fama and French's 17 industry (FF-17) breakdown. We assume the standard ten-year employee stock option to expiration. The risk-free rate of interest used was the approximate average yield that could have been earned in the particular year by investing in a U.S. Treasury bond carrying a ten-year term. Our estimates are based on the Black-Scholes valuation model of Coles et al. (2013).
CFO Ownership	The number of shares plus the number of unexercised stock options beneficially held by CFO as a percentage of total shares outstanding (immediately after IPO).
CFO Promotion	Dummy variable equal to one if the incumbent CFO has been promoted to the CEO position (in the same or another firm), and zero otherwise.
Panel B: CEO Variables	
CEO Age	Age of CEO (in years).
CEO Gender	Dummy variable equal to one1 if CEO is female, and zero otherwise.
CEO Tenure	Number of years working as CEO in the firm until the IPO.
CEO Career Concerns	*CEO Career Concerns*$_{i,t} = (TENURE_{i,t} + AGE_{i,t}) \times (-1)$, where $TENURE_{i,t}$ is the number of years the CEO has held that position prior to IPO, $AGE_{i,t}$ is the age of the CEO who works for firm i in year t. We multiply it by negative one for our regressions.
Total CEO Pay	It is calculated following the same approach as for the Total CFO pay.
CEO Ownership	The number of shares plus the number of unexercised stock options beneficially held by CEO as a percentage of total shares outstanding (immediately after IPO).
Panel C: Firm, Offering and other Characteristics	
Governance Quality	It is constructed by taking the first factor of applying principal component analysis to the following variables: board independence measured as the ratio of the number of independent outside directors to the total number of directors; a dummy variable equal to one if the board has a nominating committee that is composed solely of independent directors, (and zero otherwise); the percentage of outside directors on the board that were appointed after the current CEO took office; the natural logarithm of the average number of other directorships held by independent directors serving on the board; a dummy variable, equal to one if the majority of outside directors on the board serve on three or more other boards; the natural logarithm of the number of board meetings; the natural logarithm of the number of directors serving on the board.
Leverage	The ratio of total liabilities over total assets in the fiscal year prior to IPO.
EPS	Dummy variable equal to one for positive earnings per share in the fiscal year prior to IPO, and zero otherwise.
Firm Age	The number of years elapsed since firm's foundation to IPO date, using foundation dates from Thomson Financial database as well as from the Field-Ritter dataset. The variable is transformed into the regressions by adding one and taking the natural logarithm.
Size	The natural logarithm of total assets in the year prior to the IPO.
Proceeds	The natural logarithm of gross proceeds raised by the IPO estimated as shared offered times the offer price.
Lockup	Dummy variable equal to one if there is a lock-up agreement present, and zero otherwise.

(*continued on next page*)

(*continued*)

Variable	Definition
VC	Dummy variable equal to one for venture capital-backed firms, and zero otherwise.
Underwriter	Dummy variable equal to one for underwriters with a ranking score above or equal than 7.0, and zero otherwise.
Big 4 Auditor	Dummy variable equal to one if the firm is audited by a big four audit firm, and zero otherwise. Big four audit firms include Ernst & Young, Deloitte & Touche, KPMG, and PricewaterhouseCoopers.
Underpricing	The difference between the first secondary market closing price available in CRSP and IPO offer price, divided by IPO offer price.
Technology	Dummy variable: one for IPO firms with SIC codes 3571, 3572, 3575, 3577, 3578 (computer hardware), 3661, 3663, 3669 (communications equipment), 3671, 3672, 3674, 3675, 3677, 3678, 3679 (electronics), 3812 (navigation equipment), 3823, 3825, 3826, 3827, 3829 (measuring and controlling devices), 3841, 3845 (medical instruments), 4812, 4813 (telephone equipment), 4899 (communications services), and 7371, 7372, 7373, 7374, 7375, 7378, and 7379 (software).
Internet	Dummy variable equal to one for IPOs of Internet firms, and zero otherwise. Internet firms are classified those with business description containing any of the words "Internet", "Online", eBusiness", "eCommerce", and/or "Website".
NCA Enforceability	It is the non-compete agreement index in each state. Higher NCA values imply greater enforceability of non-compete agreements in a given state.
NCA Enforceability_Up	It takes the value of 1 for firms headquartered in states that have experienced an increase in NCA enforceability index, and 0 for firms that experienced no change in NCA enforceability.
Severance Pay Contract	A dummy variable equal to one if the CFO was protected by a severance agreement, and zero otherwise.
Litigious Industries	A dummy variable equal to one if the IPO firm is in the biotech (SIC codes 2833–2836 and 8731–8734), computer (3570–3577 and 7370–7374), electronics (3600–3674) or retail (5200–5961) industry, and zero otherwise (Francis et al., 1994).
Selling Incentives	It is the predicted abnormal trading volume. Predicted abnormal trading volume is equal to the residual of a regression model where the dependent variable is realized abnormal trading volume and the control variables are the following: Runup, VC, % of Shares Locked, Underwriter, Tech, Lockup Length (following Sletten et al., 2018). More details about the estimation model can be found in the Internet Appendix.
Post-IPO Performance	It is the ratio of market value of assets to book value of assets and averaged over the next three years after the IPO.
Panel D: Earnings Quality Proxies	
AACC	Abnormal accruals in the offering year, computed using the modified Jones (1991) model.
AOCF	Abnormal cash flow from operations in the offering year, estimated following Roychowdhury (2006). When conducting regression analysis, we multiply this variable by negative one, so that higher values indicate more aggressive real earnings management.
APROD	Abnormal production costs in the offering year, estimated following Roychowdhury (2006). Higher values indicate more aggressive real earnings management.
ADISEXP	Abnormal discretionary expenses in the offering year, estimated following Roychowdhury (2006). When conducting regression analysis, we multiply this variable by negative one, so that higher values indicate more aggressive real earnings management.
REM1	Aggregate level of real earnings management in the offering year, calculated as the sum of abnormal production costs and abnormal discretionary expenses (multiplied by negative one). Higher values of REM1 indicate more aggressive real earnings management (Cohen and Zarowin, 2010).
REM2	Aggregate level of real earnings management in the offering year, calculated as the sum of abnormal cash flow from operations and abnormal discretionary expenses. Both of these variables are multiplied by negative one so that higher values of REM2 indicate more aggressive real earnings management (Cohen and Zarowin, 2010).
Aggregate EM Index	It is constructed by taking the first factor of applying principal component analysis to the following earnings management variables: AACC, AOCF, APROD, and ADISEXP.

Appendix B. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jcorpfin.2024.102626.

References

Acharya, V., Myers, S., Rajan, R., 2011. The internal governance of firms. J. Financ. 66 (3), 689–720.
Al Guindy, M., 2021. Corporate twitter use and cost of equity capital. Finance 68, 101926.
Ali, A., Zhang, W., 2015. CEO tenure and earnings management. J. Account. Econ. 59, 60–79.
Anagnostopoulou, S., Gounopoulos, D., Malikov, K., Pham, H., 2021. Earnings management by classification shifting and IPO survival. Finance 66 (3), 101796.
Antia, M., Pantzalis, C., Park, J., 2010. CEO decision horizon and firm performance: an empirical investigation. Finance 16, 288–301.
Armstrong, C., Foster, G., Taylor, D., 2016. Abnormal accruals in newly public companies. Manag. Sci. 62 (5), 1316–1338.
Baginski, S., Campbell, J., Hinson, L., Koo, D., 2018. Do career concerns affect the delay of bad news disclosure? Account. Rev. 93 (2), 61–95.
Baker, A., Larcker, D., Wang, C., 2022. How much should we trust staggered difference-in-differences estimates? J. Financ. Econ. 144 (2), 370–395.
Ball, R., Shivakumar, L., 2008. Earnings quality at initial public offerings. J. Account. Econ. 45 (2–3), 324–349.
Barrios, J.M., 2021. Staggeringly Problematic: A Primer on Staggered DiD for Accounting Researchers. Unpublished Working Paper.
Bergstresser, D., Philippon, T., 2006. CEO incentives and earnings management. J. Financ. Econ. 80, 511–529.
Biddle, G., Chan, L., Joo, J., 2024. Clawback adoptions, managerial compensation incentives, capital investment mix and efficiency. Finance 84, 102506.
Billings, M.B., Lewis-Western, M.F., 2016. When does pre-IPO financial reporting trigger post-IPO legal consequences? Contemp. Account. Res. 33 (1), 378–411.
Bishara, N., Martin, J., Thomas, R., 2015. An empirical analysis of noncompetition clauses and other restrictive postemployment covenants. Vanderbilt Law Rev. 68, 1–51.
Bohn, J., Choi, S., 1996. Fraud in the new-issue market: empirical evidence on securities class actions, 144. University of Pennsylvania Law Review, pp. 903–982.
Brau, J., Fawcett, S., 2006. Initial public offerings: an analysis of theory and practice. J. Financ. 61 (1), 399–436.
Brav, A., Gompers, P., 2003. The role of lockups in initial public offerings. Rev. Financ. Stud. 16 (1), 1–29.
Brown, K., 2015. Ex ante severance agreements and earnings management. Contemp. Account. Res. 32 (3), 897–940.
Brown, N., Christensen, T., Menini, A., Steffen, T., 2022. Non-GAAP Earnings Disclosure and the Valuation of IPOs. Unpublished Working Paper.

Butler, A., Fauver, L., Spyridopoulos, I., 2019. Local economic spillover effects of stock market listings. J. Financ. Quant. Anal. 54 (3), 1025–1050.
Cadman, B., Campbell, J., Klasa, S., 2016. Are ex ante CEO severance pay contracts consistent with efficient contracting? J. Financ. Quant. Anal. 51 (3), 737–769.
Callaway, B., Sant'Anna, P., 2021. Difference-in-differences with multiple time periods. J. Econ. 225 (2), 200–230.
Carter, R., Manaster, S., 1990. Initial public offerings and underwriter reputation. J. Financ. 45 (4), 1045–1067.
Cecchini, M., Jackson, S., Liu, X., 2012. Do initial public offering firms managers accruals? Evidence from individual accounts. Rev. Acc. Stud. 80, 441–476.
Cengiz, D., Dube, A., Lindner, A., Zipperer, B., 2019. The effect of minimum wages on low-wage jobs. Q. J. Econ. 134 (3), 1405–1454.
Chapman, K., Miller, G.S., White, H.D., 2019. Investor relations and information assimilation. Account. Rev. 94 (2), 105–131.
Chava, S., Purnanandam, A., 2010. CEOs versus CFOs: incentives and corporate policies. J. Financ. Econ. 97, 263–278.
Chen, T.-Y., Zhang, G., Zhou, Y., 2018. Enforceability of non-compete covenants, discretionary investments, and financial reporting practices: evidence from a natural experiment. J. Account. Econ. 65, 41–60.
Chen, Y., Goyal, A., Veeraraghavan, M., Zolotoy, L., 2020. Media coverage and IPO pricing around the world. J. Financ. Quant. Anal. 55 (5), 1515–1553.
Cheng, Q., Lee, J., Shevlin, T., 2016. Internal governance and real earnings management. Account. Rev. 91 (4), 1051–1085.
Chua, A., Nasser, T., 2016. Insider sales in IPOs: consequences of liquidity Nees. Finance 39, 1–17.
Cohen, B., Dean, T., 2005. Information asymmetry and investor valuation of IPOs: top management team legitimacy as a capital market signal. Strateg. Manag. J. 26 (7), 683–690.
Cohen, D.A., Zarowin, P., 2010. Accrual-based and real earnings management activities around seasoned equity offerings. J. Account. Econ. 50, 2–19.
Colak, G., Gounopoulos, D., Loukopoulos, P., Loukopoulos, G., 2021a. Political power, local policy uncertainty and IPO pricing. Finance 67, 101907.
Colak, G., Gounopoulos, D., Loukopoulos, P., Loukopoulos, G., 2021b. Tournament incentives and IPO failure risk. J. Bank. Financ. 130, 106193.
Coles, J., Naveen, D., Naveen, L., 2013. Calculation of Compensation Incentives and Firm-Related Wealth Using Execucomp: Data, Program, and Explanation. Unpublished Working Paper.
Correia, S., 2017. Linear Models with High-Dimensional Fixed Effects: An Efficient and Feasible Estimator. Working Paper. http://scorreia.com/research/hdfe.pdf.
Darouici, A., Kunusch, S., Menz, M., Cannella Jr., A., 2021. CEO tenure: an integrative review and pathways for future research. Corp. Gov. 29 (6), 661–683.
Dechow, P.M., Skinner, D., 2000. Earnings management: reconciling the views of accounting academics, practitioners, and regulators. Account. Horiz. 14 (2), 235–250.
Dechow, P.M., Sloan, R.G., Sweeney, A.P., 1995. Detecting earnings management. Account. Rev. 70 (2), 193–225.
Dechow, P.M., Sloan, R.G., Sweeney, A.P., 1996. Causes and consequences of earnings manipulation: an analysis of firms subject to enforcement actions by the SEC. Contemp. Account. Res. 13 (1), 1–36.
Dechow, P.M., Ge, W., Schrand, C., 2010. Understanding earnings quality: a review of the proxies, their determinants and their consequences. J. Account. Econ. 50 (2–3), 344–401.
DeFond, M., Lim, C., Zang, Y., 2016. Client conservatism and auditor-client contracting. Account. Rev. 91 (1), 69–98.
Donangelo, A., 2014. Labor mobility: implications for asset pricing. J. Financ. 69 (3), 1321–1346.
DuCharme, L., Malatesta, P., Sefcik, S., 2001. Earnings management: IPO valuation and subsequent performance. J. Acc. Audit. Financ. 16 (4), 369–396.
DuCharme, L., Malatesta, P., Sefcik, S., 2004. Earnings management, stock issues, and shareholder lawsuits. J. Financ. Econ. 71 (1), 27–49.
Duong, Huu Nhan, Goyal, Abhinav, Kallinterakis, Vasileios, 2022. Democracy and the pricing of initial public offerings around the world. J. Financ. Econ. 145 (1), 322–341.
Edmans, A., Fang, V.W., Huang, A.H., 2022. The long-term consequences of short-term incentives. J. Account. Res. 60 (3), 1007–1046.
Ertimur, Y., Sletten, E., Sunder, J., 2014. Large shareholders and disclosure strategies: evidence from IPO lockup expirations. J. Account. Econ. 58, 79–95.
Fama, E., 1980. Agency problems and the theory of the firm. J. Polit. Econ. 88 (2), 288–307.
Fan, Z., Radhakrishnan, S., Zhang, Y., 2021. Corporate governance and earnings management: evidence from shareholder proposals. Contemp. Account. Res. 38 (2), 1434–1464.
Field, L., Hanka, G., 2001. The expiration of IPO share lockups. J. Financ. 56 (2), 471–500.
Field, L., Lowry, M., 2022. Bucking the Trend: Why Do IPOs Choose Controversial Governance Structures and why do Investors Let Them. Unpublished Working Paper.
Firk, S., Gehrke, Y., Richter, S., Wolff, M., 2023. CFO career concerns and strategic decisions: an empirical analysis. Eur. Account. Rev. 1–32.
Florackis, C., Sainani, S., 2021. Can CFOs resist undue pressure from CEOs to manage earnings? Finance 67, 101859.
Francis, J., Philbrick, D., Schipper, K., 1994. Shareholder litigation and corporate disclosures. J. Account. Res. 32 (2), 137–164.
Francis, J., Huang, A.H., Rajgopal, S., Zang, A.Y., 2008. CEO reputation and earnings quality. Contemp. Account. Res. 25 (1), 109–147.
Friedlan, J., 1994. Accounting choices of issues and initial public offerings. Contemp. Account. Res. 11 (1), 1–31.
Gao, H., Zhang, H., Zhang, J., 2018. Employee turnover likelihood and earnings management: evidence from the inevitable disclosure doctrine. Rev. Acc. Stud. 23, 1424–1470.
Garmaise, M.J., 2011. Ties that truly bind: noncompetition agreements, executive compensation, and firm investment. J. Law Econ. Org. 27, 376–425.
Ge, W., Matsumoto, D., Zhang, J., 2011. Do CFOs have style? An empirical investigation of the effect of individual CFOs on accounting practices. Contemp. Account. Res. 28, 1141–1179.
Geiger, M.A., North, D.S., 2006. Does hiring a new CFO change things? An investigation of changes in discretionary accruals. Account. Rev. 81 (4), 781–809.
Gibbons, R., Murphy, K., 1992. Optimal incentive contracts in the presence of career concerns: theory and evidence. J. Polit. Econ. 100 (3), 468–505.
Goodman-Bacon, A., 2021. Difference-in-differences with variation in treatment timing. J. Econ. 225 (2), 254–277.
Gormley, T., Matsa, D., 2014. Common errors: Gow to (and not to) control for unobserved heterogeneity. Rev. Financ. Stud. 27 (2), 617–666.
Gounopoulos, D., Loukopoulos, G., Loukopoulos, P., 2021. CEO education and the ability to raise capital. Corp. Gov. 29 (1), 67–99.
Gounopoulos, D., Loukopoulos, G., Loukopoulos, P., 2022. The role of corporate political activity: Evidence from the SEC's oversight role in the IPO process. J. Manag. Stud. 61 (2), 375–412.
Graham, J., Harvey, C., 2002. How do CFOs make capital budgeting and capital structure decisions? J. Appl. Corp. Financ. 15, 8–23.
Graham, J., Harvey, C., Rajgopal, R., 2005. The economic implications of corporate financial reporting. J. Account. Econ. 40, 3–73.
Greene, D., Smith, 2020. How does acquisition experience affect managerial career outcomes? J. Financ. Quant. Anal. 56 (4), 1381–1407.
Gul, F., Fung, S.Y.K., Jaggi, B., 2009. Earnings quality: some evidence on the role of auditor tenure and Auditors' industry expertise. J. Account. Econ. 47 (3), 265–287.
Hainmueller, J., 2012. Entropy balancing for causal effects: a multivariate reweighting method to produce balanced samples in observational studies. Polit. Anal. 20, 25–46.
Harris, O., Karl, J.B., Lawrence, E., 2019. CEO compensation and earnings management: does gender really matters? J. Bus. Res. 98, 1–14.
Hazarika, S., Karpoff, J.M., Nahata, R., 2012. Internal corporate governance, CEO turnover, and earnings management. J. Financ. Econ. 104 (1), 44–69.
Hendricks, B.E., Howell, T., Bingham, C., 2019. How much do TMTs matter in founder-led firms? Strateg. Manag. J. 40 (6), 959–986.
Hermalin, B., Weisbach, M., 1998. Endogenously chosen boards of directors and their monitoring of the CEO. Am. Econ. Rev. 88 (1), 96–118.
Hilary, G., Hsu, C., Segal, B., Wang, R., 2016. The bright side of managerial over-optimism. J. Account. Econ. 62 (1), 46–64.
Hoitash, R., Hoitash, U., Kurt, A.C., 2016. Do accountants make better chief financial officers? J. Account. Econ. 61 (2–3), 414–432.
Holmstrom, B., 1999. Managerial incentive problems: a dynamic perspective. Rev. Econ. Stud. 66, 169–182.
Hribar, P., Collins, D., 2002. Errors in estimating accruals: implications for empirical research. J. Account. Res. 40 (1), 105–134.
Huang, H.W., Rose-Green, E., Lee, C.-C., 2012. CEO age and financial reporting quality. Account. Horiz. 26 (4), 725–740.
Jeffers, J., 2024. The impact of restricting labor mobility on corporate investment and entrepreneurship. Rev. Financ. Stud. 37 (1), 1–44.
Jiang, J., Petroni, K., Wang, I., 2010. CFOs and CEOs: who have the Most influence on earnings management? J. Financ. Econ. 96, 513–526.
Jo, H., Kim, Y., Park, M., 2007. Underwriter choice and earnings management: evidence from seasoned equity offerings. Rev. Acc. Stud. 12, 23–59.

Jones, J., 1991. Earnings management during import relief investigations. J. Account. Res. 29 (2), 193–228.
Karpoff, J., Scott, L., Martin, G., 2008. The consequences to managers for financial misrepresentation. J. Financ. Econ. 88 (2), 193–215.
Kim, J.-B., Li, Y., Zhang, L., 2011. CFOs versus CEOs: equity incentives and crashes. J. Financ. Econ. 101, 713–730.
Kothari, S.P., Leone, A.J., Wasley, C.E., 2005. Performance matched discretionary accrual measures. J. Account. Econ. 39, 163–197.
Krueger, P., Sautner, Z., Tang, D.Y., Zhong, R., 2024. The effects of mandatory ESG disclosure around the world. J. Account. Res. https://doi.org/10.1111/1475-679X.12548.
Laksmana, I., 2008. Corporate board governance and voluntary disclosure of executive compensation practices. Contemp. Account. Res. 25 (4), 1147–1182.
Larcker, D., Tayan, B., 2018. The evolution of corporate governance: 2018 study of inception to IPO. Rock Center Corporate Govern. Stanford University 1–21.
Laux, C., Laux, V., 2009. Board committees, CEO compensation, and earnings management. Account. Rev. 84 (3), 869–891.
Lee, G., Masulis, R., 2011. Do more reputable financial institutions reduce earnings management by IPO issuers? Finance 17 (4), 982–1000.
Lee, J.M., Park, J.C., Folta, T.B., 2018. CEO career horizon, corporate governance, and real options: the role of economic short-termism. Strateg. Manag. J. 39, 2703–2725.
Lennox, C., Payne-Mann, C., 2023. An Explanation of Path Analysis and Recommendations for Best Practice. Unpublished Working Paper.
Liu, X., Ritter, J., 2011. Local underwriter oligopolies and IPO underpricing. J. Financ. Econ. 102 (3), 579–601.
Liu, X., Wu, B., 2020. Do IPO firms misclassify expenses? Implications for IPO Price formation and post-IPO stock performance. Manag. Sci. 67 (7), 3985–4642.
Loughran, T., McDonald, B., 2013. IPO first-day returns, offer Price revision volatility, and form S-1 language. J. Financ. Econ. 109 (2), 307–326.
Loughran, T., Ritter, J., 2004. Why has IPO underpricing changed over time? Financ. Manag. 33 (3), 5–37.
Lowry, M., Murphy, K., 2007. Executive stock options and IPO underpricing. J. Financ. Econ. 85, 39–65.
Lowry, M., Shu, S., 2002. Litigation risk and IPO underpricing. J. Financ. Econ. 65 (3), 309–335.
Lowry, M., Michaely, R., Volkova, E., 2017. Initial public offerings: a synthesis of the literature and directions for future research. Found. Trends Financ. 11 (3–4), 154–320.
Lucier, C., Spiegel, E., Schuyt, R., 2002. Why CEOs fall: The causes and consequences of turnover at the top. Strategy + Business. Third Quarter 2002.
Matta, S., Beamish, P., 2008. The accentuated CEO career horizon problem: evidence from international acquisition. Strateg. Manag. J. 29, 683–700.
Miller, D., 1991. Stale in the saddle: CEO tenure and the match between organization and environment. Manag. Sci. 37 (1), 34–52.
Nagar, V., 1999. The role of Manager's human Capital in Discretionary Disclosure. J. Account. Res. 37, 167–181.
Pae, S., 2021. Career concerns and financial reporting quality. Contemp. Account. Res. 38 (4), 2555–2588.
Pae, S., Song, C.-J., Yi, A., 2015. Career concerns and management earnings guidance. Contemp. Account. Res. 33 (3), 1172–1199.
Petersen, M.A., 2009. Estimating standard errors in finance panel data sets: comparing approaches. Rev. Financ. Stud. 22 (1), 435–480.
Qian, Y, Ritter, JR, Shao, X, 2024. Initial public offerings chinese style. J. Financ. Quant. Anal. 59 (1), 1–38. https://doi.org/10.1017/S002210902200134X.
Roychowdhury, S., 2006. Earnings management through real activities manipulation. J. Account. Econ. 42 (3), 335–370.
Shleifer, A., Vishny, R., 1989. Management entrenchment: the case of manager-specific investments. J. Financ. Econ. 25 (1), 123–139.
Simsek, Z., 2007. CEO tenure and organizational performance: an intervening model. Strateg. Manag. J. 28 (6), 653–662.
Sletten, E., Ertimur, Y., Sunder, J., Weber, J., 2018. When and why do IPO firms manage earnings? Rev. Acc. Stud. 23, 872–906.
Sobel, M., 1982. Asymptotic confidence intervals for indirect effects in structural equation models. Sociol. Methodol. 13, 290–312.
Stein, J., 1989. Efficient capital markets, inefficient firm: a model of myopic corporate behavior. Q. J. Econ. 104 (4), 655–669.
Sun, L., Abraham, S., 2021. Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. J. Econ. 225 (2), 175–199.
Tang, M., Wang, R., Zhou, Y., 2021. Labor market mobility and expectation management: evidence from enforceability of NonCompete provisions. Contemp. Account. Res. 38 (2), 867–902.
Teoh, S.H., Welch, I., Wong, T.J., 1998a. Earnings management and the subsequent market performance of initial public offerings. J. Financ. 53, 1935–1974.
Teoh, S.H., Welch, I., Wong, T.J., 1998b. Earnings management and the underperformance of seasoned equity offering. J. Financ. Econ. 50, 63–99.
Venkataraman, R., Weber, J., Willemborg, M., 2008. Litigation risk, audit quality, and audit fees: evidence from initial public offerings. Account. Rev. 83, 1315–1345.
Willenborg, M., Wu, B., Yang, Y., 2015. Issuer operating performance and IPO Price formation. J. Account. Res. 53, 1109–1149.
Wongsunwai, W., 2013. The effect of external monitoring on accrual-based and real earnings management: evidence from venture-backed initial public offerings. Contemp. Account. Res. 30 (1), 296–324.
Wu, B., 2022. Do IPOs bear more severe legal consequences of accounting misstatements? J. Account. Public Policy 41 (3), 106945.
Zingales, L., 2000. In search of new foundations. J. Financ. 55 (4), 1623–1653.